Joyce

Florida WILDLIFE

That Sudden Burst
St. Johns Shad

Fishing · Hunting · Conservation · Outdoor Recreation

NOVEMBER 1972

The Florida Magazine for all Sportsmen

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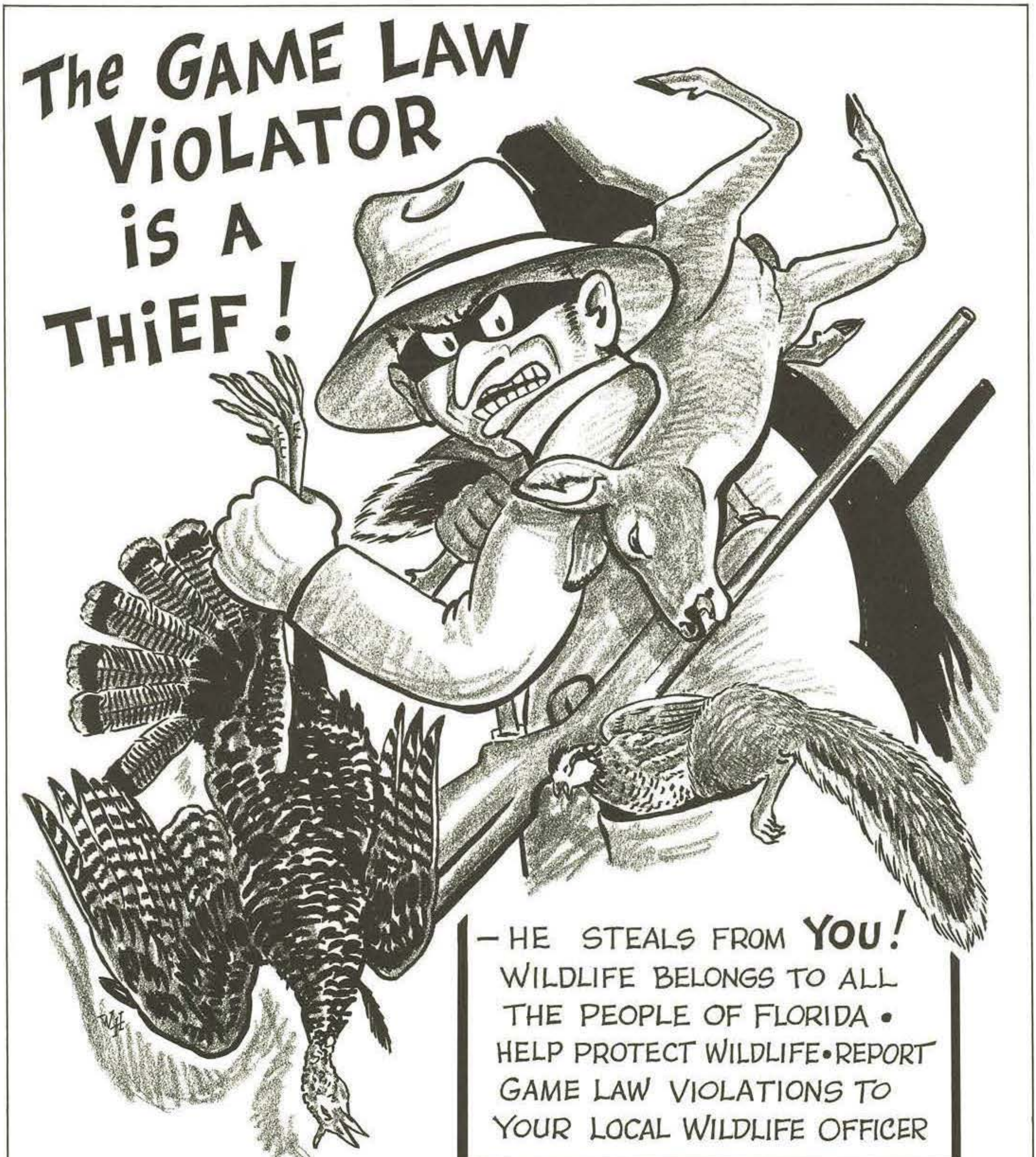
Florida Wildlife Scrapbook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FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

Florida WILDLIFE

VOL. 26, NO. 6

NOVEMBER 1972

official publication of the
Game & Fresh Water Fish Commission
State of Florida

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Publications Department

BILL HANSEN *Editor*

WALLACE HUGHES *Art Director*

GENE SMITH *Associate Editor*

NANCY CHOIKE *Production Assistant*

C. L. SATTERFIELD *Circulation*

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The Cover

Mainly a farmland species, the bobwhite has long been a hunting favorite of Florida sportsmen. A cornfield with beggarweed, or a lespedeza patch edged with brushy fence rows, is "quail heaven." See page 8.

Photo By William Greer

FLORIDA WILDLIFE is published monthly by the Florida Game and Fresh Water Fish Commission, Farris Bryant Bldg., Tallahassee, Fla. 32304. Single copy price, 35¢; Subscription rates: 1-year, $3.00; 2-year, $5.50; 3-year, $7.50. Change of address should be reported promptly. The Commission assumes no responsibility for unsolicited manuscripts and illustrative materials. Permission is granted to reprint text materials, EXCEPT for advertising and commercial purposes, provided full credit is given FLORIDA WILDLIFE, and contributors. Clearance must be made with photographers and artists to reproduce illustrations. Second Class Postage paid at Tallahassee, Florida.

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REGIONAL OFFICES

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Question Box

Question: What are the "endangered species" of wildlife in Florida, and what standards are used in placing an animal on the list?

Answer: "Endangered species" are defined as those within the state that are in jeopardy, or likely to become so in the foreseeable future, due to (1) destruction, drastic modification or severe curtailment of habitat, or (2) their over-utilization for commercial or sporting purposes, or (3) effect of disease or pollution, or (4) other natural or man-made factors affecting prospects for survival. Fourteen species of birds, five mammals, two reptiles, one amphibian, and one fish are currently considered by the Game and Fresh Water Fish Commission to be endangered. They are the bald eagle, brown pelican, Everglade kite, ivory-billed woodpecker, sandhill crane, peregrine falcon, dusky seaside sparrow, Cape Sable sparrow, great white heron, reddish egret, roseate spoonbill, wood ibis, mangrove cuckoo, scrub jay, panther, round-tailed muskrat, weasel, Everglades mink, Key Largo wood rat, American crocodile, indigo snake, pine barrens tree frog, and Okaloosa darter. None of these may be taken, sold, offered for sale, or possessed except as authorized by permit from the director of the commission.

Question: Can a wildlife officer arrest a person for littering?

Answer: Yes, but he'd rather not have to. Section 403.413, Florida Statutes, empowers all law enforcement officers in the state to enforce anti-litter laws. Conviction for violating this Section carries a fine of up to $500. It's cheaper for the outdoorsman, and less trouble for all concerned, if litter is placed in a proper receptacle—even if it means taking it home to the family garbage can, which is actually a simple solution to the problem.

Question: Is a state hunting license required for hunting on privately owned commercial hunting preserves?

Answer: Yes. It may be either of the regular hunting licenses for residents or nonresidents, or the Series "H" license costing $5.50 and valid on licensed hunting preserves only.

Question: Do commercial hunting preserves have seasons and bag limits?

Answer: They have a season, but no bag limits in the usual sense. The open season for taking game birds on licensed preserves is October 1 through April 20 each year. This is pen-reared, released game, so the state imposes no bag limits. Instead, the hunter pays for the outing and what he takes based on a fee schedule established and advertised by the management. His pocketbook dictates his "limit." Note, however, that game mammals taken on a preserve are subject to the regular season and bag limits established for the species locally—with the exception that deer may be taken from October 1 through April 20 on licensed preserves that are completely enclosed by a deerproof fence.

Question: How many different kinds of fresh water fish are there in Florida?

Answer: Around 140 native species, according to a "Checklist of Florida Fishes" compiled by a Commission fisheries biologist.

Question: How many species of birds in the state?

Answer: At different times and places, 473 avian forms have been reported and described in Florida, plus 36 on a so-called "hypothetical list," for a total of 509. This includes year-round resident species, seasonal migrants, western and other forms that stray into the state only rarely, and a few breeding non-native species.

Question: Is it legal to use bream for bait?

Answer: Yes, and pickerel or jack too, when fishing with rod and reel or pole and line. But no setline, bush hook, or trotline may be baited with live fish or any part of any game fish. And no species of bass may be used for bait.

Question: Is it a violation of either federal or state law to shoot ducks on the water? Or of state law to shoot quail on the ground?

Answer: No violations involved, but some pretty questionable sportsmanship. The sporting thing to do is to take all game birds, except turkeys, on the wing. (Cripples of any species excluded, of course.)

Question: Where can a fellow go diving to spear a few gars?

Answer: Nowhere in the state, without a special written permit from the Commission director or his representative. Without that permission no fish may be taken by underwater swimming or diving in fresh water. However, nongame fish other than catfish may be taken by manually operated spears or gigs or by bow and arrow from above-water during daylight hours, by licensed fresh water fishermen.

Rowing Rundown

even with a fancy "fishing machine" it's a sure bet that someday the use of oars will be necessary—and it's a skill not hard to master

By CHARLES WATERMAN

THERE ARE THOSE who feel any instruction on rowing a boat comes 100 years too late. The art, if there is such a thing, is comparatively simple, although misunderstood by many of the hackers who have tried to move me along a shoreline.

The long, strong pull of song and fable is usually out of place when you're going nowhere except past a few fish you hope to interest. Instead of the long stroke with your back in it, most slow-motion rowing is best done with forearms and wrists and should be done with the oarsman facing the way he hopes to go. Such strokes are short and can be made with your back comfortably pushing against a padded support. They also make steering much easier, as one long push can get you so far off course that drastic corrective measures are necessary.

As you go forward you "push" or "walk" the boat, taking alternate strokes with right and left hands. The simultaneous pull or push with both oars is for speed, turns into pretty hard work, and requires power from your back. The perfect fishing stroke is short, makes little disturbance in the water, and keeps the boat going pretty steadily. If there's a clearly audible splash you're doing something wrong.

Most such rowing is done with the help of wind or current. Of course, if the current is quite strong it's necessary to keep the bow into it and row in that direction. Most fishermen who make a practice of fishing fast water will face downstream and hold the boat against the current with a backward stroke.

Most of the rowing we do these days is with outboard boats having a wide stern that makes speed almost impossible. If you really must travel with the oars, shifting the load into the bow may minimize the drag from the wide stern. Some of the best polers want their load in the bow and they pole toward the stern with the motor end actually lifted out of the water. Even a small outboard motor exerts considerable drag if the prop is left down, and unless it is perfectly straight it continually gets you off your course. If the fishermen keep things pretty well trimmed from left to right the oarsman's job is simplified.

Outboard boats are wide for the most part, and it's common to equip them with oars that are too short. Longer oars are expensive—and it's natural to be attracted to light ones—but remember that the oars are partly balanced by being fastened in the middle; so heavy ones are sometimes easier to work than light ones.

Although serious rowing calls for horns, or oar-

(*Continued on next page*)

An experienced oarsman, Ray Donnersberger "pushes" or "walks" a light boat while bass fishing at Crystal River. The best system is to use a constant hand-over-hand motion.

(Continued from preceding page)

locks, that enable you to feather the blades a little, most fishing purposes are served by pinned oars. Any oar over 8 feet long probably needs to work loosely in the lock, however. If that length scares you, remember that 9-footers are good for some of the bigger boats, and that a very small person will get along better with them than with short, light oars, providing, of course, the boat is big enough to need the longies. One advantage of a little extra oar weight is that it will be unnecessary to force the blade down into the water on each stroke.

The distance from the pivot point to your hand is almost as important as the distance from it to the blade. If the gripping points are far to one side as you face forward you'll be doing extra work. They should be around in front—at least far enough that your hands go straight forward from your shoulders. Oars are much more likely to be too short than too long.

It may take a while to learn speed rowing, but anyone should develop satisfactory shoreline fishing-type rowing in 15 minutes.

THERE IS A CONSERVATION backlash despite the words of various fishermen and hunters who say the "ecology kick" is a growing force with no sign of slackening. I don't deny that more and more people are interested in less pollution, preserved seashores, and fish and game management; I do say that many folks are tired of what they consider a constant harangue. I do say that some individuals and organizations have become radical on the subject.

When fishermen oppose the damming of natural rivers for power purposes they should be prepared to show that the power is unneeded or that it can be acquired elsewhere. This is a detail they don't always bother with, and they fail to recognize that fishing is less important than power to most Americans—maybe even to them. They unknowingly find their position the same as that of the California students who buried the new car to demonstrate against air pollution, and then caused an automobile traffic jam in leaving the scene.

This is not the only field in which we sometimes look pretty stupid. When conservationists are careless in describing a species as "near extinction" they sometimes put themselves in the position of "crying wolf" too often. Not long ago there was a cry that the western prairie dog was on the way out—quite a surprise to a rancher with 50 acres of them in his pasture.

The drive against hunting can slop over into fishing, and don't you forget it, for the basic process of bringing a bass home to eat and bringing a quail home to eat is about the same in both cases.

The other day I caught a fish in the presence of a highly intelligent grade school girl. She was delighted to see the fish come aboard, but her expression changed almost instantly.

"Turn it loose, turn it loose!" she said, almost hysterically. "It has a right to live!"

That youngster was on the verge of tears before I could get the fish back in the water. Her premise that it "had a right to live" had undoubtedly been a bit overemphasized at school. I will not say she is wrong, but I don't think we are ready to become vegetarians in large numbers. True vegetarians are a very small percentage of those who oppose hunting, and could well oppose fishing.

It is possible that by pushing too hard in some directions we can alienate the general public from essential causes. There are many who would say the schoolgirl had been over-preached-to by a bunch of nuts. I won't go that far, but I was just a little concerned.

If you're wondering, I was going to put the danged fish back anyway. But if I'd been fish hungry I wouldn't have.

THERE ARE A NUMBER OF wigglers and spoons that you work at high speed through grass and over bonnets. Someone asked the other day why it is that such cover makes a fast retrieve necessary.

The answer, of course, is that it keeps the lure from sinking and hanging up. A bass in the weeds is no faster than a bass in open water; probably not as fast. In using surface lures in weedy waters, I believe in moving them more slowly than in open water but in making them somewhat noisier.

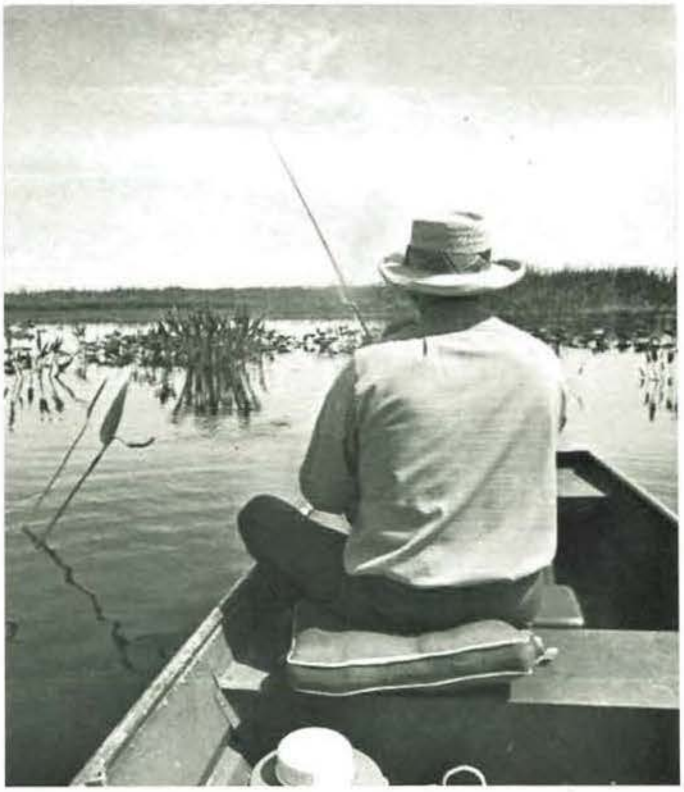
I have reasons.

They should move more slowly because the fish has to work his way through all of that stuff to get to them. They should be louder because his vision is restricted by the growth and he might never know your thing is there if it doesn't sound off.

For whipping spoons along the surface it is hard to beat a bait casting rod, but there are some spinning reels with a very fast retrieve. You've heard me hold forth on the general method of moving the rod tip up and down and changing reeling speed to lower the bait into pockets and make it skip across impenetrable sectors. A plugging rod is better for that—less tiring.

I SELDOM USE an automatic fly reel because I frequently employ the same outfit for both fresh and salt water fishing and the automatic has neither the line capacity nor the retrieve necessary in some heavy operations. Nevertheless, I sure can't fault the automatic when fishing from shore. It keeps the extra line from flopping around large feet and grasping weeds. More flyline has been worn out by feet than will ever be worn out by fishing.

Just how much line can be retrieved by an automatic when it's fully wound? Well, the Perrine peo-



While fishing heavy cover, angler finds that his speed of retrieve is more critical than when lure is in open.

ple, makers of one of the top quality autos, advertise that their product will take up as much as 60 feet. It's seldom you need more than that in fresh water fishing.

REDBUGS (CHIGGERS) haven't been forgotten by the folks who make up chemical solutions to defeat insects. Most fishermen get some of the accursed things from time to time; some are greatly bothered, and others have a redbug bite only now and then. As I have stated here before, I find that good insect repellents go a long way toward keeping the bugs away, but there are now some special things at the drugstore if you'll ask for them. I won't get into trade names, but at least one of the solutions comes with a little dabbing applicator and not only kills the redbug but coats the bite with a substance that blocks out the air and prevents itching.

Incidentally, I have never understood why redbugs bother some people more than others. I have heard the theory that if you keep too clean the things will attack you on sight and that they dote on cologne, shaving lotions, and ladies' perfume. Could be. There must be something else involved, however, for the same people are repeaters as redbug victims, and I don't see how they could continue to be the cleanest members of every fishing party.

The chigger is found mainly in the southern half of the contiguous United States. It is not a cold weather pest. Generally, it's simply an annoying discomfort. But there have been cases in which redbug bites verged on the serious. Infection can set in. The more you scratch them, the more they bother you, and most of the really big bumps and sores are more the result of fingernails than the bites themselves. But allergy to redbugs varies, and there are some folks who get big bumps whether they scratch or not. I used to be proud of the way I could ignore feeding mosquitoes and deerflies and survive pretty well without scratching redbugs too much. Then I met the northern black fly in quantities and found myself almost a stretcher case.

OVER IN LOUISIANA there are some pirogues that you put on instead of getting into them. The high-speed jobs are just wide enough for the seat of your pants. A Cajun can walk off to the canal with his boat under his arm, and sport fishermen often use some of the larger sizes.

The Old Town canoe people have come up with something mighty close to the pirogue in weight and usefulness. Unless I have misread the specifications, this little number is 10½ feet long with a 27-inch beam and weighs 18½ pounds. It should be pretty fast but nothing to do calisthenics in.

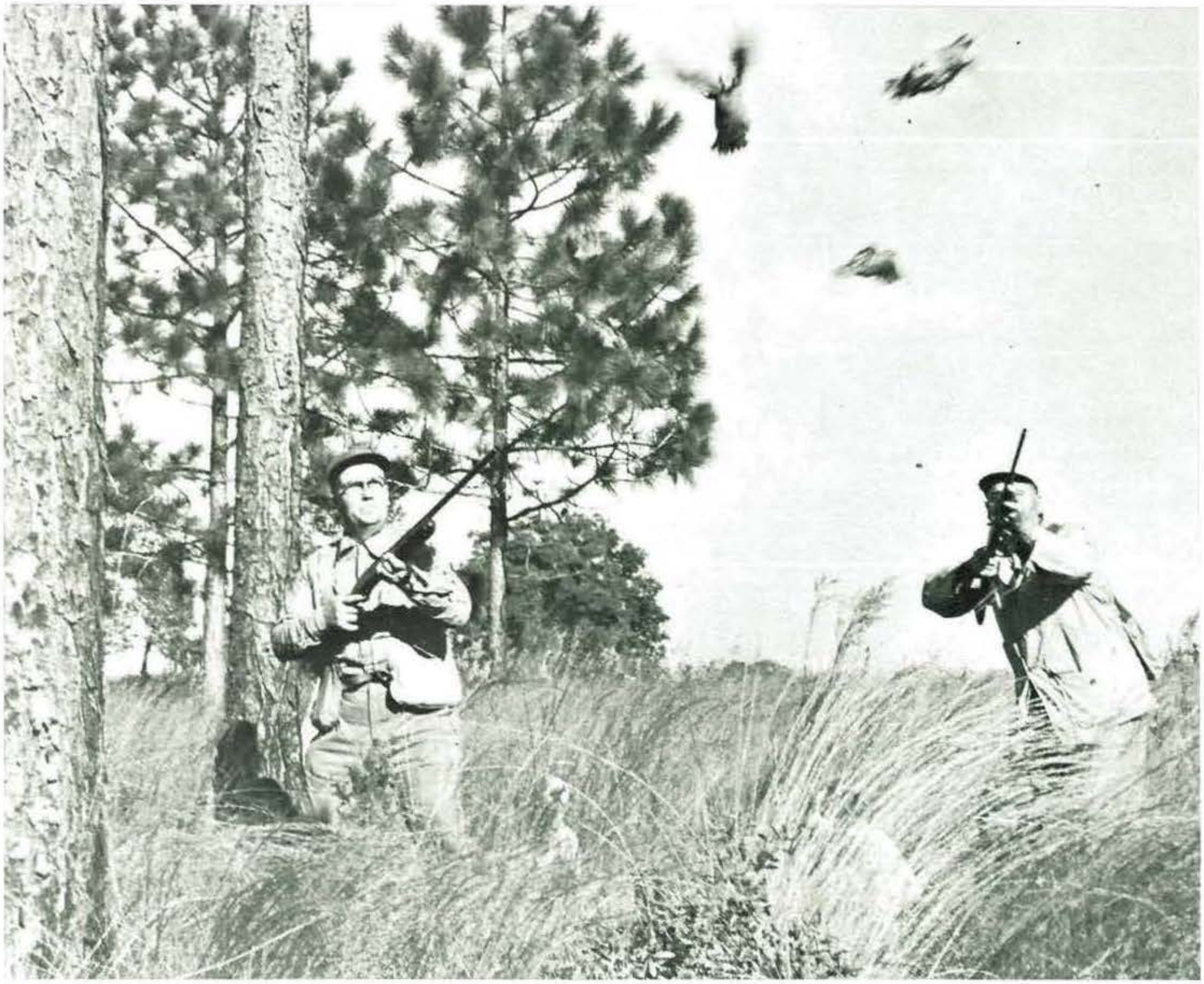
Now this is no boat for a family outing, but for a lone fisherman who wants to carry it through the brush and slide around on quiet water, it isn't much heavier than a tackle box. The cost is a little less than $200.

OUTDOOR PUBLICATIONS seem to have changed only a little in subject matter down through the years. Strangely, outdoor magazines of the period before 1920 did more wailing about the good old days than do those of the 'seventies. There was also more talk about sportsmanship, ethics in hunting and fishing, and the joys of outdoor life, whether fishing was good or not.

In rummaging through a pile of the old ones in search of some historical material, I was struck with the sentimental approach of the anglers of that age. They were poetic about their fishing, even while being humorous on the subject.

Sporting equipment has come a long way since then, but I don't think we outdoor writers have moved much.

THE WANKEL ENGINE, the German invention that is being used in automobiles, is now being used for outboard motors. The main selling point, you know, is that there are few moving parts. The outboard I tried came from Italy and was a little less than 10 horsepower. It was a little heavier than most conventional motors of the same power. It had a different sound and was easy on fuel. Costs a little more, I understand. It looked simple. We'll see. ●



Photos By Charles Dickey

bobwhite quail—a five-ounce feathered fury providing hunting thrills with . . .

That Sudden Burst

THERE'S NO THRILL in all of hunting quite like the sudden burst of a covey of bobwhite quail, especially the first flush of the season. And there's no type of hunting where man and dog work more closely together.

It takes total cooperation for a bird dog and hunter to come home with a limit of quail. The odds are mostly with the birds. They are perfectly camouflaged and have all outdoors in which to hide and escape. They have evolved a shattering noise on the covey flush which confuses the shooter. They always fly at an angle or curve and they know how to use escape cover. Even when the hunter shoots one cleanly, it takes good dog work to find it in wiregrass or other dense cover.

Letting the hunted animal or bird have the odds is what is known as sportsmanship. For the average marksman to get a limit of 12 birds in a day, he probably has to put up six to 10 coveys. If you figure the average covey has 14 birds, the average shooter must see 84 to 140 quail on covey flushes and, of course, put many of them up again as singles.

The bobwhite quail, the same as people who hunt it, has its frailties. During most of the year it puts out a strong scent, and pointing dogs can locate it. The quail coveys and singles usually hold for pointing dogs, giving the hunters time to get close for a shot when the bird is flushed or decides to fly on its own. The bird is gregarious; it just can't stand being alone, so when a hunter finds one, he knows there are more someplace near.

As with about all living organisms, the quail is a creature of habits. If a covey finds cozy habitat—plenty of food, cover, loafing areas, and territorial room—it homesteads. Quail have no desire to see what's on the other side of the ridge. Once a hunter locates a covey in November, after a little fall shuffling of the birds, chances are he can locate the covey within 200 to 800 yards of the same spot all season, assuming the habitat doesn't change or the covey is not put under too much hunting pressure.

Another weakness of the bobwhite quail is that it flies only 100 to 200 yards, and the hunter can relocate it. Also, after the noise and confusion of shooting and hunters yelling at dogs dies down, quail may give themselves away by their urgent covey recall cries of *perlee, perlee*. Quail scattered in late afternoon are quick to whistle recall; a bobwhite hates to roost alone, preferring the warmth and company of 10 or 15 others with their tails together in a tight circle.

If the hunted has its weak points, then what about the hunter? He is armed with a shotgun, often a 20 gauge. He must get close enough to shoot a quail no farther away than 40 yards. In all the vastness of open pine woods or farm land, he must intersect the flight line of a quail with a shot cone. He cannot be one-tenth of a second ahead or behind the quail on its flight line or he will miss. In fact, the rendezvous of shot and quail at the exact instant in time and space seems almost as staggering as the linkup of astronauts coming back to the command ship after a moon landing.

Assuming that a hunter has some degree of skill with his shotgun, perhaps his biggest weakness will be a lack of adequate hunting dogs. Unfortunately, bird dogs, no matter how much you love them, are selfish; they prefer to hunt the way they want rather than the way the hunter wants. If a dog hunts as his master desires, then that dog is known as a "broke" dog. When a broke dog gets a whiff of bobwhite scent, he starts walking on eggshells; when he gets a real noseful, he stays where he is and indicates, by pointing, exactly where the quail are located. He does not bound and leap and try to catch the birds; further, he holds his point until the hunters walk past his nose, or until he is given a command after the shooting, or until nightfall if the hunters don't show up.

Broke dogs are rare and should be treasured. If

(*Continued on next page*)

By CHARLES DICKEY

Buzzing wings and blinding speed mark the bobwhite covey rise, left, always a thrill to the dyed-in-the-wool bird hunter. Add a little shotgunning skill and loyal working dog, below, and his day is really made. The quail in the winter coveys are fit and strong, making fine game birds.

(Continued from preceding page)

you cannot purchase one, or you do not have the patience to break one, then you must find a friend who has such an animal and cultivate this friend as though he worked for the Internal Revenue Service and is auditing your income tax return.

A quail flies every day in its fight to stay alive. A lot of animals, other than man, like to eat quail. Predators keep the birds alert and strong. The quail you flush in December are the fittest, otherwise they would not be there. A bobwhite "practices" flying every day, but most hunters don't fire a shotgun for months or do much to get their legs in shape. When the Florida quail season opens, the birds are just about at the peak of form, but the average hunter starts cold.

To me, the first covey flush of the season is a mental hazard. No matter how much I plan it, and lean on experience from past years, I am never quite prepared for the covey explosion. My reflexes are not keen enough, and I find it especially hard to make a decision on which bird to shoot. Because I know this, I work myself into a mental tizzy.

It's the same each year. Even the night before the season opens I begin to worry about what new way the first covey will confuse me. I visualize all of the birds crisscrossing, then all going to the right, coming straight back over the dogs, or going in 15 different directions. I am reasonably sure the birds will not charge and attack me. I'm also uncomfortably aware that no matter which way the birds fly my three shots are going to bring down nothing but pine cones and oak leaves.

It's a mistake to let one's mind definitely anticipate how a covey will flush. The expert quail hunter knows generally how the birds will burst out, but he waits until they come up and then adapts to the situation. I know this well and preach it to all my hunting buddies, but I'm not good at practicing it. In my eagerness to bag at least one bird on the season's first flush, I invariably fix my mind on where the birds will flush—and they consistently do the opposite. It's enough to cause me to lose a second or two reaction time and balk. However, I do pull the trigger two or three times. It's better to miss than to have your hunting partner ask, "Why didn't you shoot?"

Also, I'm an eternal optimist and figure if I shoot in the general direction of where most of the birds are flying I might hit one. This has never happened, but I keep thinking it might. It's kind of the same idea that I keep hoping a rich uncle will leave me a million dollars when I know full well I don't even have an uncle.

Too, if I don't shoot on the season's first covey rise it upsets the dogs. Most of them have a certain tolerance for missing, but they don't understand if there is no shooting. It is most disconcerting for a pointer to turn and stare scornfully at you as though you are the rankest of amateurs.

The first covey of the season is the same as the first tackle in a football game or the first minute of a public speech. After you miss, get bumped, or put your foot in your mouth, you can settle down to the business at hand. The adrenalin slows up and the butterflies quit fluttering against your stomach lining. I wish there was some way of starting with the second covey of the season rather than the first.

It isn't that I don't do the prescribed things getting ready for the November opening. I get my legs in shape by chasing dogs and I work on my shoot-

Photo By Leonard Lee Rue III

After a covey rise, looking for a single, left, is the next order of business—made possible because quail don't fly very far. Statuesque dog on point, right, is termed "broke" if he will let you flush the bird.

Photo By Charles Dickey

ing eye with skeet and clay birds thrown from a hand trap. It's just that there isn't anything exactly like a covey flush one can practice on. It's a long time from February to November.

After working the singles from the first covey, I relax into a pleasant day of ambling from covey to covey. There is a bright glow of looking forward to a long season.

If, by great good luck, I get a double from the second covey rise, my whole day is made. I become tolerant of mistakes the dogs make. I may offer unsolicited shooting tips to my hunting buddy. For his edification, I explain four or five times each step and mental process I took in making the double. In fact, I may become so expansive as to actually compliment him on his dog's work, even referring to the animal as a "bird dog" rather than a "potlicker."

If my buddy is still with me at noon, there are few things in life more pleasant than to spread lunch near a spring shaded by mossy live oak trees. The first covey shakes will not have to be endured for another year, and there is time to snooze and rest the dogs before hitting the afternoon coverts. The dogs scratch around until they find cool dirt to lie in and their panting eases off as they get into comfortable positions, waiting to see if they'll get a spare Vienna sausage or some cold pork and beans.

If there are a few quail in the bag, it's a peaceful scene—with hunters, dogs, and the outdoors in quiet harmony. It's a time to laugh about the morning's mistakes and to make resolutions about the afternoon. It's a time to replenish the stomach and to nourish the soul. For this brief moment, there is no worldly care more pressing than pulling sandspurs out of your boots.

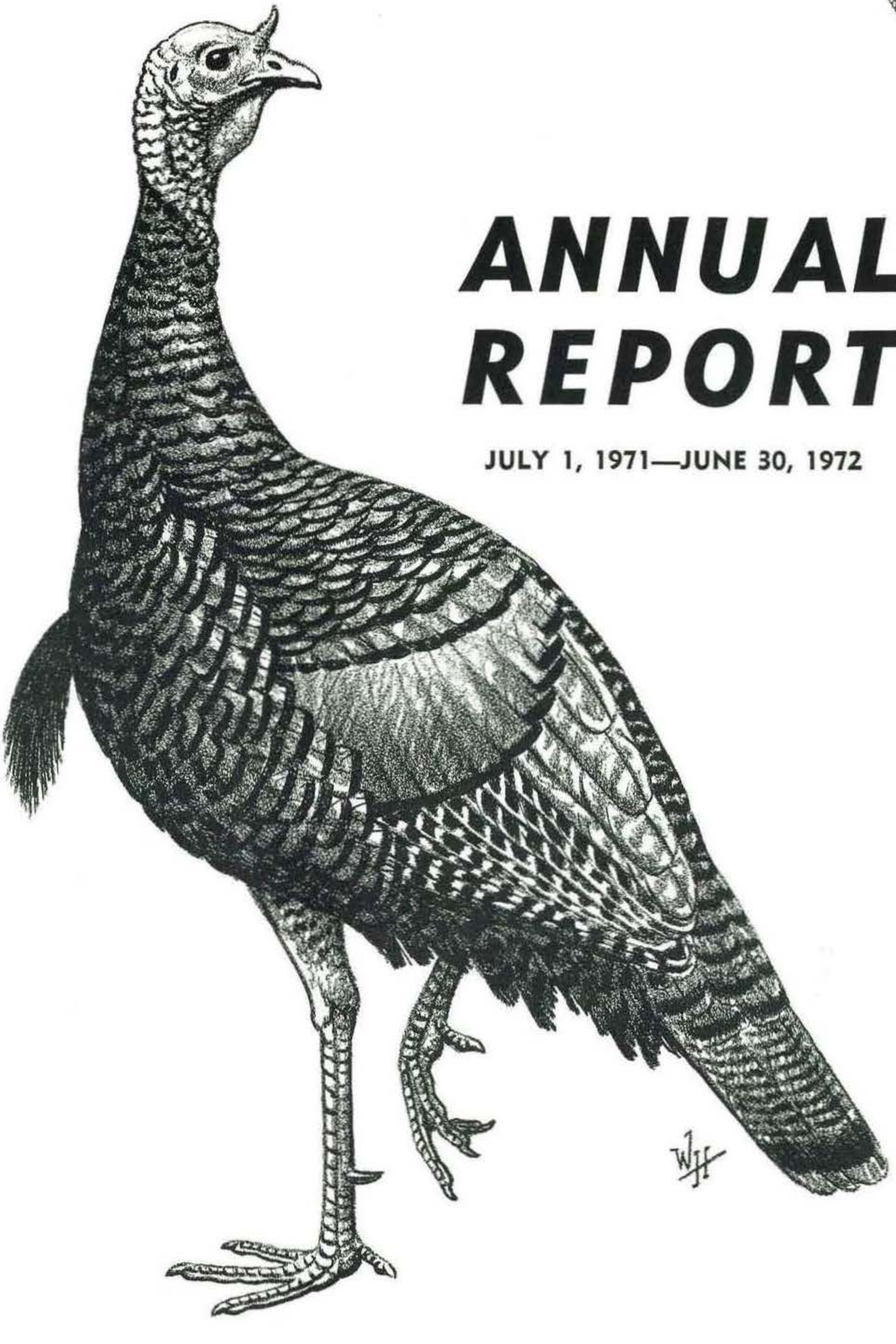
In fact, it's such an idyllic time that I may ask my buddy to tell me again about that triple he got back in 1968. ●

Fishing Citations

Largest fish out of 140 citations issued between September 1, 1971 and August 31, 1972

Weight	Length	Caught By	Date	Tackle	Lure	Location	County
Largemouth Bass							
14-lb 8-oz	31 "	A. L. Connerly Tampa	16 Feb.	Spinning	Live Shiner	Hillsborough River	Hillsborough
14-lb 3-oz	27½"	Richard Hammett Venice	27 Feb.	Bait Casting	Live Shiner	Small Lake	Marion
13-lb 8-oz	28½"	Laurie Sullivan Orlando	14 March	Spinning	Live Shiner	St. Johns River	Putnam
13-lb 7-oz	29 "	Haston Taylor Tampa	1 Jan.	Spinning	Live Shiner	Hillsborough River	Hillsborough
12-lb 8-oz	31¼"	Max Jeffers Bradenton	29 Feb.	Spinning	Live Shiner	Gobbler Lake	Lake
12-lb 8-oz	29 "	Russel Wilson Dunnellon	9 June	Spinning	Live Shiner	Turner Lake	Marion
12-lb 8-oz	27 "	Frazier McDonald, Jr. Tampa	31 May	Spinning	Live Shiner	Jone's Lake	Pasco
12-lb 7-oz	27½"	Ed Henderson Tampa	21 Aug.	Bait Casting	Live Shiner	Hillsborough River	Hillsborough
12-lb 4-oz	27 "	Mike Dupes Jacksonville	2 July	Spinning	Live Shiner	Lake Delancy	Marion
12-lb 4-oz	27 "	Thomas Rust Jacksonville	8 Aug.	Spinning	Live Shiner	Lake Delancy	Marion
12-lb 3-oz	27 "	Dewayne Westfall Jacksonville	20 Sept.	Spinning	Live Shiner	Orlando	Orange
12-lb 2-oz	28 "	Charles Monroe Ocala	11 Sept.	Spinning	Blue Creme Worm	Orange Lake	Marion
12-lb 0-oz	27¾"	Arthur Wolf Jacksonville	26 Feb.	Spin-casting	Live Shiner	Lake Delancy	Marion
Chain Pickerel							
7-lb 0-oz	28 "	Harold Burnum Niceville	30 Dec.	Spin-casting	Hell Bender	Alaqua Creek	Walton
Redbreast							
1-lb 8-oz	10½"	Clyde Goff Tallahassee	8 April	Cane Pole	Sand Maggot	Lake Iamonia	Leon
Black Crappie							
3-lb 0-oz	17¼"	John Womack, Jr. Sarasota	2 Feb.	Spinning	Missouri Minnow	Ocala National Forest	Marion
2-lb 7-oz	17¼"	D. C. McFadyen Gainesville	29 Jan.	Spinning	Live Shiner	Lochloosa	Alachua
2-lb 4-oz	16 "	Dr. N. D. Himes Mount Dora	15 Feb.	Spinning	Minnow	Lake Gertrude	Lake
2-lb 4-oz	16 "	Robert Denis Lakeland	14 March	Spin-casting	Cordell Spot	Phosphate Pit	Polk
2-lb 1-oz	13¼"	Charles Cortellesi Rockledge	19 March	Spinning	Missouri Minnow	Lake Poinsett	Brevard
2-lb 0-oz	14½"	Ralph Heim Jacksonville	25 Nov.	Spinning	Swimming Minnow	EEEE Fish Camp	Highlands
2-lb 0-oz	14¼"	James Heim Avon Park	29 Jan.	Cane Pole	Minnow	Kissimmee River	Highlands

Florida Game and Fresh Water Fish Commission



ANNUAL REPORT

JULY 1, 1971—JUNE 30, 1972

Administration

DURING THE PAST YEAR, probably the most important aspect of the administration of the Game and Fresh Water Fish Commission involved its adjustment to governmental reorganization. For example, the Commission voluntarily placed its employees under the State Career Service System (effective February 1, 1971).

Basically, the Commission is attempting to fit its operations into the pattern of state government while retaining its constitutional autonomy. Our agency has complied with general state law and administrative policy with reference to such things as purchasing, communications, law enforcement, and personnel management while maintaining its own administrative structure.

We seek to present a unified statewide program, easily accessible and responsive to the public, through our five regional offices, each staffed with personnel representing our major functions: law enforcement, fish management, wildlife management, radio communications, information-education, and administration.

Our efforts to accomplish the above have not been without problems. For example, there are points of view which support the thought that retention of the Commission's constitutional status is contrary to the aims of governmental reorganization. The Commission feels differently, and, judging from the state referendums in 1942, 1960, and 1968, believes that the majority of Florida citizens share the Commission's view.

Some of the reasons for the Commission view in favor of retaining constitutional status are as follows:

We prefer the appointed citizen board-type organization for natural resource agencies. Appointees to natural resource boards or commissions are normally appointed because of their particular interest in conservation matters, plus an obvious involvement in the political process.

We further believe that such appointees are closer to, and more appropriately represent, those individual hunters, fishermen, boaters, campers, bird watchers, nature lovers, and other outdoors-oriented citizens whom they are appointed to serve, than would be a salaried state employee with the same responsibility.

Thirdly, we believe that a layman board or commission working closely with a professional staff constitutes the ideal balance between the public to be served and the scientific expertise of the professionals. This position is supported by a study conducted by the Wildlife Management Institute, a privately financed conservation organization of international stature and influence. The WMI makes the following statement:

"An ideal commission consists of five non-partisan members serving staggered terms and appointed by the Governor on a statewide basis, as opposed to a district basis. Adequate discretionary legal authority is absolutely essential to manage fish and wildlife populations effectively. Each agency should have: (1) clearly stated organizational objectives in an up-to-date manual of basic policies, (2) dedicated funds supplemented with general funds, (3) sufficient professionally trained personnel, (4) an in-service training program, (5) planning for species, habitats, areas, and future human demands to define and set forth both short- and long-range achievement goals, (6) problem-oriented research within the agency and freedom to contract with outside organizations for basic research, (7) knowledge of the status and distribution of sporting, endangered, and other species and their habitats, (8) management units for handling fish and game populations, (9) programs to maintain and restore fish and wildlife environments, (10) cooperative programs with private landowners as well as land- and water-use agencies, (11) public information and education programs, and (12) staunch support of citizen organizations."

As now constituted, the Florida Game and Fresh Water Fish Commission follows exactly the "ideal commission" setup delineated in the above statement.

Another extremely important point in favor of the citizen board is that the average board member or commissioner has only the particular board or commission on which he serves as his primary governmental responsibility. Therefore, he is able to devote his time and energy to this specific field and consequently becomes much more knowledgeable than in a situation where a person with diversified responsibilities must depend largely upon an aide or staff member for guidance about any certain field. We feel this leads to many decisions being made fundamentally by staff aides who frequently are not professionals in the field they represent.

Conversely, with a citizen board the members make decisions on a subject with which they are quite familiar because of the time they have to devote to the particular area of governmental responsibility. Such decisions are made with consideration of the opinions of members of a staff normally composed of professionals in the areas of resource management for which they are responsible.

The constitutional Commission is a creation of the people. It was established through the leadership of then-Governor Spessard L. Holland and the 1941 Legislature in an effort to, among other things, bring some political continuity to the state's game and fish conservation program—which had been characterized by a history of forming and abolishing agencies; a half-dozen changes in 30 years.

The Florida Game and Fresh Water Fish Commission, which has been an autonomous agency since January 1, 1943, is dedicated to the preservation of its constitutional status because it believes this system has best served the people. Judging from the results of the 1960 and 1968 referendums, both of which strongly supported retention of the agency as approved by the original vote in the general election of 1942, this is the way the people want it—because it has worked.

We believe it will work in the years ahead. The Commission has no desire to alter its present organizational structure, but it recognizes and accepts the mandate of the Legislature to improve governmental efficiency in general. This we have striven to do during the past year, and the Administration continues to seek ways to increase the agency's effectiveness as it looks to the future.

Commission Membership

1971-1972 Fiscal Year

DR. RICHARD H. SCHULZ, Marianna
Appointed January 20, 1967
Term expired January 6, 1972

WILLIAM M. BLAKE, Tampa
Appointed January 6, 1968

JAMES B. WINDHAM, Jacksonville
Appointed January 22, 1969

C. A. PEACOCK, JR., Miami
Appointed February 18, 1970

O. L. PEACOCK, JR., Fort Pierce
Appointed January 5, 1971

HOWARD ODOM, Marianna
Appointed January 10, 1972

Financial Statement

July 1, 1971 through June 30, 1972

Disbursements and Balances

Disbursements by Object Code:	
Salaries	$ 3,722,477.50
Other Personal Services	82,108.96
Advertising Florida's Commodities, Resources and Attractions	2,655.34
Communications and Transportation of Things	99,164.29
Postage, Freight, Express, Drayage & Parcel Post	43,979.00
General Printing & Reproduction Services	152,559.93
Repairs and Maintenance	186,979.25
Travel	257,646.90
Travel Other Than Employees	11,175.90
Utilities	65,244.68
Other Contractual Services	198,663.80
Uniform Cleaning	33,791.10
Bedding, Clothing, Linens & Other Textile Products	47,614.43
Shoes	7,820.00
Educational, Medical, Scientific & Agricultural Materials and Supplies	102,881.31
Food Products	2,809.11
Maintenance Mat. & Heating Supplies (Janitorial)	121,942.17
Motor Fuels and Lubricants	253,728.94
Office Materials and Supplies	23,073.80
Other Materials and Supplies	92,109.51
Insurance & Surety Bonds & Auto Liability	146,432.66
Rental of Buildings	125,774.60
Rental of Equipment	26,425.58
Service Charges to General Revenue	163,606.00
Other Current Charges and Obligations	64,901.92
Books	1,741.37
Buildings and Fixed Equipment	123,016.15
Educational, Medical, Scientific & Agricultural Equipment	20,785.07
Motor Vehicles, Airplanes	260,357.23
Motors, Boats and Trailers	141,758.11
Other Motor Vehicles	22,818.17
Office Furniture and Equipment	23,540.60
Other Structures and Improvements	97,620.92
Other Capital Outlay	40,464.03
Data Processing	21,758.74
Building & Cont. Materials	646.20
Land	21,054.00
Debt Service	135,000.00
Grants and Aids	15,000.00
Other Distributions	30,000.00
TOTAL	$ 6,991,127.27

Disbursements by Departments:		
Administration and Support Services:		$ 1,533,941.71
Salaries	$ 590,802.37	
Other Personal Services	8,161.77	
General Expenses	517,980.82	
Operating Capital Outlay	31,609.40	
Administrative Cost to General Revenue 4%	163,606.00	
Debt Service	135,000.00	
Fixed Capital Outlay	86,781.35	
Information and Education:		$ 248,370.41
Salaries	152,108.99	
Other Personal Services	3,305.68	
General Expenses	78,657.53	
Operating Capital Outlay	10,594.84	
Fixed Capital Outlay	3,703.37	
Law Enforcement:		$ 2,284,425.36
Salaries	1,536,212.94	
Other Personal Services	1,500.38	
General Expenses	608,299.46	
Operating Capital Outlay	135,232.58	
Fixed Capital Outlay	3,180.00	
Game Management:		$ 1,112,774.22
Salaries	494,678.79	
Other Personal Services	59,818.43	
General Expenses	400,046.68	
Operating Capital Outlay	101,235.49	
Fixed Capital Outlay	41,994.83	
Grants and Aids	15,000.00	
Fish Management:		$ 1,192,668.26
Salaries	651,022.19	
Other Personal Services	7,294.70	
General Expenses	356,812.64	
Operating Capital Outlay	73,019.31	
Fixed Capital Outlay	104,519.42	
Aquatic Weed Control:		$ 618,947.31
Salaries	297,652.22	
Other Personal Services	2,028.00	
General Expenses	157,982.03	
Operating Capital Outlay	159,772.96	
Fixed Capital Outlay	1,512.10	

Total Disbursements by Budgets:	
Salaries	$ 3,722,477.50
Other Personal Services	82,108.96
General Expenses	2,283,385.16
Operating Capital Outlay	511,464.58
Fixed Capital Outlay	241,691.07
Grants and Aids	15,000.00
Debt Service	135,000.00
GRAND TOTAL	$ 6,991,127.27

Statement of Cash Receipts

Sport Fishing:		$ 2,277,246.50
AK Fishing	$ 137,827.25	
Fishing	2,139,419.25	
Sport Hunting:		$ 2,040,099.25
AK Hunting	350,833.00	
Hunting	1,109,879.75	
U.S. Permits	1,675.00	
State Hunting Permits	451,190.00	
Dove Permits	14,264.00	
Archery Permits	46,745.00	
Under-Age Permits	19,792.50	
Quail Permits	6,560.00	
Previous Yr. State Hunt Permits	39,160.00	
Commercial Fishing:		$ 27,895.00
Retail Fish Dealer	19,685.00	
Non-Resident Retail Fish Dlr.	350.00	
Resident Wholesale Fish Dlr.	6,700.00	
Non-Resident Wholesale Fish Dlr.	500.00	
Duplicate Commercial Licenses	6.00	
Fish Pond Licenses	654.00	
Commercial Hunting:		$ 11,140.00
Trapping	1,870.00	
Hunting Preserve	2,025.00	
Guide	450.00	
Game Farm	1,930.00	
Wholesale Fur Dealer & Agents	575.00	
Local Fur Dealer	90.00	
License to Exhibit Poisonous or Venomous Reptiles	185.00	
Field Trial Rentals	250.00	
Wildlife Exhibit or Sale Permit	3,765.00	
Miscellaneous:		$ 1,567,017.78
Court Costs	2,037.75	
Miscellaneous Receipts	36,183.24	
Previous Yrs. Licenses Collected	171,845.50	
Magazine Subscriptions	39,554.90	
Magazine Single Copies	317.88	
Sale of Old Equipment	169.50	
Confiscated Material & Equipment	1,125.34	
Fund Transfer—Hyacinth	1,009,020.97	
Fund Transfer—Building Trust	215,881.71	
Concession Revenue	13,681.35	
Pollution Damage	17,978.47	
Oil Lease	59,221.17	
Federal Government:		$ 1,097,626.97
Federal Aid Hyacinth Control	69,207.93	
Dingell-Johnson	387,135.10	
Pittman-Robertson	641,283.94	
Leases:		$ 61,890.78
Webb Area Grazing Lease	25,485.48	
Palm Beach County Lease	10,000.00	
Stump Lease	22,996.50	
Miscellaneous Lease	3,408.80	
TOTAL REVENUE		$ 7,082,916.28

Personnel—Planning—Training

FOUR INTERVIEW SESSIONS for prospective new employees were conducted during the year. Over 300 applicants were interviewed for the positions of biologist, botanist, wildlife officer, fish management and game management specialist, and aquatic weed control specialist.

Promotional interviews were held for the positions of sergeant, lieutenant, and captain of law enforcement.

Two salary adjustments were completed during the report period, the first in January 1972; the other in June. These raises, recommended by the "Brown Report" and approved for all state agencies, reflected an upward adjustment in nearly all Commission employees' salaries.

Forty-seven opening and closing orders were completed during the year and filed with the Secretary of State's office, after which all affected court officials and Commission personnel were notified.

Routine work in the Personnel Office consisted of processing personnel records upon terminations of employment, maintaining sick leave and annual vacation records of affected employees, and coordinating Commission recordkeeping with that of the State Division of Personnel and Retirement.

At the end of the report period, the Commission had a total of approximately 500 employees.

A PLANNING UNIT consisting of two members of the Tallahassee staff, two regional managers and the planning coordinator was established by the Commission two years ago for the purpose of formally expressing recommended policy and direction for agency operating programs, and to assist

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Administration in the matter of preparing and submitting budget documents.

The specific objectives of the Unit are to provide a process whereby the needs of the Commission can be related to the resources available; to provide the best information available to those responsible for allocating resources; to exercise continual review and analysis of the execution of approved budgets; and to coordinate the process of feeding back the field output results in a manner which will achieve better operating efficiency in all programs.

An employee attitude survey questionnaire was drawn up and circulated after the approach was approved by the State Division of Personnel. The questionnaire was filled out by all employees during various regional meetings conducted throughout the state during the month of September 1971.

Considerable time was involved in tabulating the data, making an analysis, and determining the results of the survey. After the work was completed and presented to the director, the first of a 3-step evaluation of the personnel questionnaire survey was taken at the staff meeting held in Tampa in June 1972. The Planning Unit report in this matter was reviewed and accepted by the Commission staff. The next step is the implementation of the recommendations resulting from this study.

The Planning Unit completed the monumental task of producing the new Operational Procedures Manual in August 1971. After staff study and Commission approval, the manual was printed and distributed to employees, with an effective date of January 1, 1972.

The planning officer took part in the study and drafting of a new employee performance rating form, which has since been adopted and put into use.

At the end of the report period, the Planning Unit was working on the program outline of a study of office workload in an attempt to identify areas of overload—where changes in work assignments may be beneficial. Also under study was the matter of a physical fitness program for Commission employees.

The planning officer worked with the director of administration on the 1972–73 Program Planning & Budget System report. Several meetings were held to work out a program to be used as a guide in approaching the 1973–74 PPBS planning and fiscal period.

The planning officer worked with the director of administration in other fiscal matters throughout the year, including the interviewing of an applicant for the new position of budget and fiscal planning coordinator.

THE FLORIDA POLICE Standards Board approved the Game and Fresh Water Fish Commission's Wildlife Officer Training Academy in September 1971, a milestone in state police training. It is only the second state-organized law enforcement training academy to have been approved in Florida—the other being that of the Florida Highway Patrol.

All other police recruit courses, now 280 hours long, are conducted at junior and city colleges and at local police academies and vocational-technical schools.

The Florida State Wildlife Officer Training Academy graduated its first class March 10, 1972. Fourteen officer candidates successfully completed a total of 472 classroom hours of instruction, including 200 hours of basic law enforcement; 192 hours on the Wildlife Code, Florida Statutes, Commission orientation, and physical fitness; and 80 hours in the field of environmental protection.

With the approval of the Police Standards Board, the Commission operates its academy in two parts. A class session for newly employed wildlife officers is conducted in September and October, after which the men are assigned to field work for three months under the supervision of an enforcement sergeant. They then return to class in February and March to complete the prescribed course, at the end of which they have also completed their six months probationary service.

A problem in all professional law enforcement for many years has been personnel turnover. Hopefully, better salaries and better training will continue to reduce the problem as time goes on.

In order to assure that only those candidates most likely to make career-type professional officers are accepted for Commission training and employment, the screening of applicants has been made purposefully severe.

Of a typical group of approximately 675 applicants for the position of wildlife officer in a year's time, slightly more than 50% pass the initial written examination. These receive letters of notification to appear for oral interviews on a specified date. All but 10 or 15 of the interviewees are likely to be rejected by the interview board. The candidates are then scheduled for training, which is commenced when sufficient numbers have been declared eligible in accordance with state law and Commission standards. Three out of five normally complete their academy course work and probationary employment period successfully.

Communications

COMMUNICATIONS PERSONNEL participated in meetings with the Division of Communications of the Department of General Services at which bid specifications were assembled and bids awarded for mobile communications equipment needed by all state agencies in the current year.

The Commission's first order of mobile units was received and installed before the beginning of the 1971–72 hunting season, and an additional order was placed for units to complete the Commission's needs.

A number of meetings were attended in regard to the maintenance proposal for the several state agencies' communications systems. The related Gautney & Jones report was reviewed, and comments were made to the Division of Communications, Department of General Services.

The Centrex telephone system proposal for state offices in Tallahassee was reviewed and recommendations made.

Commission Communications personnel attended a meeting in Tallahassee with the director and assistant director at which a discussion was conducted concerning the Division of Communications' proposal to take over the communications and maintenance functions of all state agencies.

A 3-day meeting was completed at the Commission's central Communications office at New Smyrna Beach, where records, test equipment, tools and other property were checked.

As a result of an intensified effort by Communications, the majority of all Commission vehicles have been equipped with radio consoles and the associated components.

A tower site for the Perry station was located during the report period, a new tower was installed, and the base station, with all associated components, was moved.

Modification of the Starke station, along with replacement of an antenna and feed line, gave some relief to radio communications problems in that part of the system.

Antennas have been installed on the Sunland water tank at Orlando in preparation for the installation of a radio station for the Commission's new office facilities in that city. Tests were conducted which showed the water tank to be an adequate antenna location at the time.

The two national political conventions at Miami Beach placed some unusual demands on Communications personnel. These were met expeditiously with installations not normally encountered.

Fish Management

PROGRESS IN THE SCIENTIFIC management of Florida's fresh water fisheries continued during the report period. However, as might be expected in a state with such a rapidly growing human population, new problems and frustrations also cropped up to confound some of the best efforts of Fish Management to provide continued good sport fishing.

Thanks at least in part to the currently strong "ecology movement," more general public awareness of the great problems has in some ways smoothed the path for Fisheries personnel in their efforts to bring about corrective measures.

The funding of fish management projects is provided chiefly from a specifically designated portion of the income from the sale of resident state fishing licenses, and from a budgeted portion of the general operating funds collected by the Commission from the sales of licenses and permits and other incidental sources.

Another important source of funding is the Federal Aid to Fish Restoration program, through which funds are disbursed to the states by the U. S. Government from taxes collected by retailers on sales of all sport fishing tackle.

The following summary will provide a general idea of the scope of fisheries research and management activities during fiscal 1971–72.

St. Johns River—During this report period, matters of major concern on the St. Johns involved water hyacinth problems, efforts to supplement the marginal natural production of striped bass by artificial propagation, continuing investigation of water pollution problems, and monitoring of the sport and commercial fisheries in the watershed.

The matter of water hyacinths shows two broad facets. On one hand, a thriving hyacinth crop removes from the water large quantities of nutrients, the "pollution" which has increasingly plagued the river during recent years. Hyacinths and other aquatic plants in moderation can help the habitat by this improvement of water quality as well as by providing more favorable living conditions for game fish and the organisms on which they feed. On the other hand, an overabundance of water plants prevents access to recreational areas and can block out usefulness of large bodies of water to fish and other wildlife.

There are problems connected with the spraying of large masses of aquatic vegetation. Smothering of bottom areas by sinking dead plants, release of nutrients into already overly rich waters by decay of hyacinths and other plants, and the elimination of organisms from the food chain are some of the detrimental effects to be encountered.

A mechanical hyacinth harvester, privately developed, was evaluated by Commission personnel. It appears that the machine is capable of removing up to 3 acres of hyacinths a day for less than $1250.00 per acre.

Survey of sport fishing activities on the St. Johns revealed that angling has been better than at any time during the past 10 years. Commercial fish catches from the river are also up, rising from 1.5 million pounds in 1970 to 2.0 million pounds in 1971. The 1972 catch is expected to top that of the previous year. Major species taken are catfish, blue crab, American eel, and American shad.

Continuation of the project to supplement the natural production of striped bass (*Morone saxatilis*) in the St. Johns system by hatchery propagation showed some degree of success this year. In cooperation with the U. S. Fish and Wildlife Service, some 160,000 striped bass fingerlings produced at the Welaka National Fish Hatchery were released into the St. Johns River and its tributaries. It is planned to continue this work.

Aquatic Research—Plants are an essential part of the aquatic environment. Important as they are, however, under favorable conditions certain aquatics present problems of considerable magnitude. It is with matters concerning these plants that the aquatic plant research section is concerned.

Among the activities of the past year has been the establishment of a 52-lake survey in which regular monitoring of the species composition of algae of these lakes was conducted. Data of this type is used as an indicator of the water quality of the lakes.

Surveys of the vegetation composition of other bodies of water, including Rodman Reservoir and lakes Jackson, Iamonia, and Carr are being conducted on a continuing basis. Changes in plant composition detected in such a monitoring program will indicate any changes in water quality and other matters that indicate the need for closer investigation.

In cooperation with the Department of Natural Resources, an evaluation of the white amur (grass carp) was launched during the year. Thus far, it appears that the species may eat certain problem plants, especially naiad and chara, and possibly some other species. Other effects of the amur on the environment are being evaluated.

Cooperation with a New York company involved in development of a multi-spectral film that would enable workers to identify plant species from aerial photos, and the preparation for the Department of Agriculture of a set of guidelines for registration of herbicides, were among the other activities of the aquatic research section.

Eustis Laboratory—In addition to providing office and laboratory space for a number of fisheries research projects, the Eustis facility houses the Commission's chemistry laboratory. Here a considerable volume of water quality investigations and other chemical studies are conducted. Some of this work is carried out on a regular schedule as part of a continuing study of fisheries-related matters on selected waters. Included are such projects as the 100-lake survey and the Rodman Reservoir, Lake Tohopekaliga and Kissimmee River studies.

Some special short-term projects that have been conducted during the report period include analysis of water samples from Shingle Creek (on which Orlando's sewage treatment plant is located) to document flushing action of rainfall, a study to determine the removal of nutrients from water by aquatic plants, and another involved with the release of nutrients from decomposing water hyacinths.

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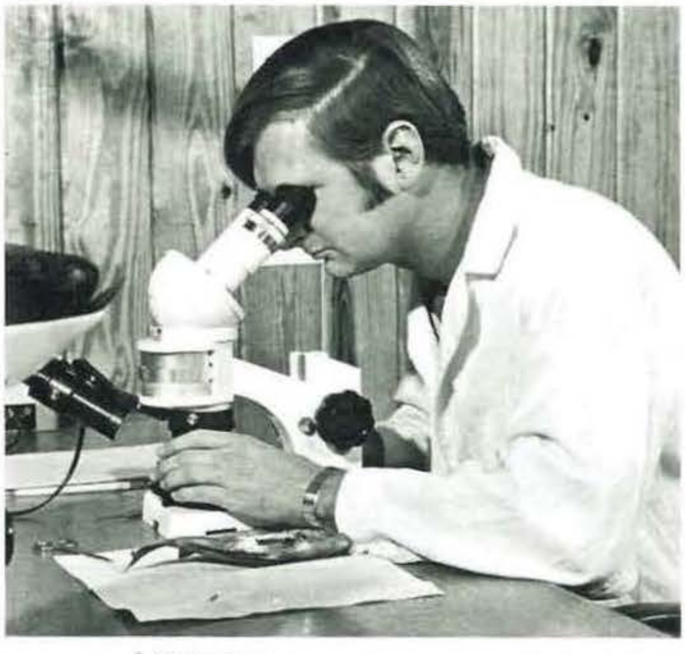

Fish's tissue is examined for parasites at Eustis laboratory.

Photo By William Greer

LIBRARY
MARINE RESEARCH LABORATORY

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Lake Okeechobee—A number of matters relating to the management of the fishery resources of Lake Okeechobee received attention during the year. With a 1971 commercial harvest of over 1.5 million pounds of catfish clearly indicating the continued importance of this fishery, an intensive investigation on channel and white catfish populations in Okeechobee was launched.

An investigation of the black crappie was also launched by project personnel.

Other matters relating to management of area fisheries which received attention included fish population sampling, recording of temperature profiles, and sampling invertebrate populations in the Kissimmee River following extensive dredging operations.

Suwannee-Santa Fe River—Investigation of life histories of major game fish species in the Suwannee-Santa Fe river system continued during the year. Activities involved regular sampling of fish populations by electrofishing gear and rotenone, sampling of the aquatic invertebrate communities, food habits investigations of game species, fecundity measurements, water chemistry work, and creel census.

Richloam Hatchery—Largemouth bass production at Richloam Hatchery topped 325,000 fingerlings during the 1972 season. These fish were distributed to waters throughout the state. In addition to filling all requests on file, sufficient fish were available to make heavy emergency stockings in the Peace River following a heavy fish kill resulting from an earlier industrial mishap.

A total of 285,000 bream (bluegill and redear) were distributed to sites in various areas of the state, except for the Northwest Region, which was adequately served by distribution from Holt Hatchery.

Some 274,500 striped bass were produced at Richloam this year, with 200,000 fingerlings reared there and the balance at the Holt Hatchery.

The expansion of hatching and early-rearing facilities, refinement of equipment, and experience of all personnel in the demanding techniques required for hatchery production of striped bass were responsible for this success. Previously, fry had been obtained from a South Carolina hatchery. This year's successful effort, using Florida-captured brood stock, offers great promise for the future of the striper program.

In addition to fish production, the facilities at Richloam are used for various research purposes.

One project that continued through the year is concerned with lake eutrophication. Other research is planned for the future.

Regional Biologists—Each of the five regional offices has fisheries specialists on its staff. These people handle a multitude of matters concerned with fish and the aquatic environment. The ultimate goal of their activities is to see that sport fishing continues to be one of the Sunshine State's major attractions.

Richloam Hatchery, Sumter County, has been a model "fish-factory" for other states ever since it was opened in 1966.

Photo By William Greer

Photo By Carlton Jackson

The striped bass project helped to produce almost 7 million eggs. Many were reared to fingerlings and used for stocking.

One activity to which much time is devoted in all regions is consultation with private landowners regarding management of their fishing lakes and ponds, including control of aquatic vegetation. Some of the other activities conducted during the past year are cited here as an indication of the scope of regional fisheries work.

Northwest Region—Much time was devoted to environmental issues during the past year. In one month, for example, 19 projects were investigated and comments prepared regarding the probable impact of the proposed work on the environment. The projects ranged from a proposed desnagging operation in the Choctawhatchee River by a federal agency to dredging and filling of streams by private operators.

Effort was devoted to developing improved lake management techniques in an attempt to increase fish production. One means of accomplishing this was an effort to match water conditions in one of the most productive ponds at Holt Hatchery.

To this end, 20 tons of hydrated lime were introduced into the watershed of recently completed Hurricane Lake. Some five weeks after the lime application the acidity of the water was substantially reduced, improving conditions for fish and other aquatic organisms. The lake has been stocked with largemouth bass and bluegills, and the project looked promising at the end of the report period.

Another activity was the drawdown of 202-acre Merritt's Mill Pond. Plagued with an overly luxuriant growth of naiad, chara, and filamentous algae, this popular fishing lake was fast being choked with aquatic vegetation. The drawdown was successful in killing back substantial amounts of it, greatly improving fishing conditions.

Northeast Region—As part of an intensive study of the Suwannee River sport fishery, some 7,000 largemouth bass fingerlings were marked with flourescing pigment and released into the river. The project was initiated in an effort to determine the rate of survival of stocked largemouths and to study fish movements in the river. Applied under air pressure, sufficient granules of the color pigment become imbedded in the scales to show up as glowing color spots when, on subsequent capture, the fish is exposed to ultraviolet light.

Environmental threats of various kinds required much time to investigate during the year. Typical of these was the investigation of a proposed bridge site involving much filling and altering of currents in a productive marsh near Cedar Key. Another was a check of a proposed canal through Dixie County swamps which would have gone through California Lake and resulted in the unnecessary drainage of a swamp habitat important to fish and wildlife.

Among the environmental protection efforts that met with success in the Northeast Region during the year was the case of one soap producing plant that was fined and closed down by court order. For many years this firm had been dumping oil, grease, and other pollutants into Black Creek, a St. Johns River tributary. The company is to remain out of operation until completion of a system capable of treating two hundred thousand gallons of waste material a day.

A number of fish kills were investigated during the year. Typical of these was one which occurred in May when cloudy weather, along with a high organic load, brought on oxygen depletion in New River at Raiford State Prison, killing 200–300 fish.

Central Region—There were a number of environmental matters involving other public agencies in which the Commission became involved during the year. As an example, a channelization project on the Palatlakaha River which would affect thousands of acres of important wildlife marsh habitat. Some mitigating actions were proposed by the agency involved, but these fell far short of alleviating this unnecessary threat to the dwindling wildlife habitat.

Among the fish kills investigated was one resulting from the City of Maitland's weed control efforts. The estimated value of the fish lost in this all-too-common incident was $2,400.

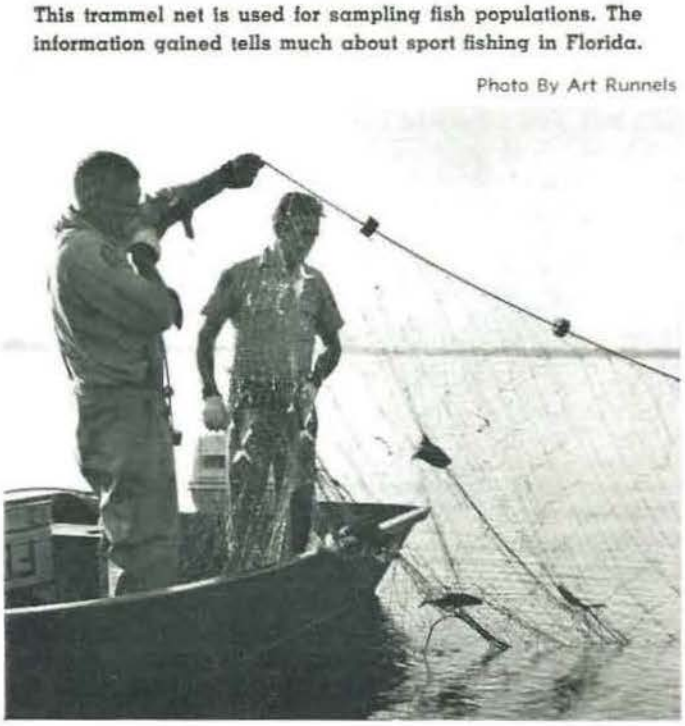
South Florida Region—During this report period, an investigation of some unusual bait minnows reported to the Commission by an alert and cooperative wholesaler resulted in the discovery of numbers of mirror carp being distributed by a dealer. This is one of the species restricted from import into the state. The fish were destroyed. Nine piranha were also confiscated in an inspection of tropical fish dealers following the July 1, 1971 deadline for possession of this species.

Encouraging notification was received from the Department of Pollution Control concerning settlement of a number of pollution incidents by regional fisheries personnel. Among other pollution investigations conducted during the year was one on Pemberton Creek and Lake Thonotosassa involving effluent from the Plant City sewage treatment plant. A settlement was received from a Dade City packing company for damages and costs of investigating a fish kill which occurred there in December 1970.

A unique fish kill was investigated in Arbuckle Creek south of Sebring. A train derailment on the trestle crossing the creek resulted in some 20 box cars and piggy-back semi-trailers piling up and spilling their cargo into the creek. A massive fish kill resulted when tons of detergents, soap, and heavy duty cleaning agent broke open during the mishap. Debris from the site littered the shoreline and bottom for 8 to 10 miles, well on into Lake Istokpoga, and there was also the loss of productive lake and stream area for a period of time.

This trammel net is used for sampling fish populations. The information gained tells much about sport fishing in Florida.

Photo By Art Runnels



A continuing series of industrial accidents extending back a number of years occurred in the South Florida Region during the report period. A break in a dike allowed a sizable amount of phosphatic clay "slime" to flow into the Peace River. There was a substantial fish kill, which was investigated by Commission personnel. A remedial restocking of largemouth bass, bluegill, and channel catfish was made in the river as soon as water conditions made it practicable to do so.

Everglades Region—As might be expected in a region where there is a high concentration of people and attendant land development, there were many environmental problems to be investigated during the year.

With the appointment of a Commission representative to the Palm Beach County Zoning Code Task Force and the Dade County Waterways Task Force, it appears there is a trend away from poor planning, which is the basis of many of Florida's environmental problems.

Appearances on television programs and talks to various special interest groups were perhaps more numerous in this region, although such functions are part of the regular work schedule of fisheries biologists in every region.

A number of flood control district projects were checked out at the request of the Department of Administration. Several proposed sewage treatment plants were studied for the Department.

The Commission constructed three fishing ponds on the J. W. Corbett Wildlife Management Area.

Cooperative efforts to control environmental damage were obtained in some cases. For instance, a developer agreed to construct an earthen dam in his waterway to prevent siltation of the South Fork of the St. Lucie River.

Pesticide problems continued to be widespread in the region, with the use of persistent pesticides still common.

A continuing bird kill, affecting mainly fish-eating species, in the Delray Beach-to-Melbourne area was investigated in cooperation with Game Management Division personnel.

Other Fish Management and Research Projects—In an attempt to improve angling by manipulating the fish population of a sizable lake, an experimental haul seining program was initiated on 465-acre Lake Hollingsworth at Lakeland. The removal of 100–150 pounds per surface acre of gizzard shad, threadfin shad, brown bullhead, and stunted panfish of various species was accomplished. No largemouth bass or striped bass were removed in this operation. The results, evaluated by creel census and block net sampling, showed a largemouth bass population increase of about five times the original density and a significant improvement in angling. So promising were the results of this effort that, in cooperation with county authorities, the Commission is now conducting an extensive haul seining program in Polk County.

As was noted under the Richloam Hatchery and St. Johns River discussions, the striped bass is receiving considerable attention by Commission biologists. The striper has considerable potential as a game fish, as witnessed by its popularity in other areas where it is native and occurs in some numbers. In addition, the species appears to offer much promise as a biological control on overpopulated forage fishes, especially gizzard shad and the smaller threadfin shad. Striped bass have been introduced into a number of selected lakes, including Lake Talquin near Tallahassee, Newnans Lake near Gainesville, and lakes Griffin, Hunter, Julianna, and Mattie in the Lakeland area. Good populations are established and will be supplemented by annual stocking with fingerlings reared at the Commission's hatcheries. The striper program

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is still in an experimental stage and research findings will provide a basis for making future recommendations.

During 1972, seven million striper eggs were obtained from wild-caught fish taken from northeast Florida runs. From these eggs, one million fry were hatched at Richloam and 274,500 fingerlings reared to stockable size at Richloam and Holt. Success of this project is important to the maintenance of landlocked fisheries for striped bass, since stripers do not reproduce naturally in lake habitat, so must be stocked annually.

The extent of the sport fishing catch, the man-hours of effort devoted to angling, and the degree of fishing success in lakes Griffin and Harris near Leesburg are the subject of a creel census study continued during the year. A decline in the sport fishery of Lake Griffin is indicated by the 5 years of data thus far accumulated. Although located in the same watershed, Lake Harris shows a relatively stable sport fishery. The results of this study are expected to tie in with creel census work at Lake Apopka, where a lake level drawdown is anticipated.

Fish population studies directed toward determining the general status, fluctuations and trends in the numbers of major species of sport, forage, and rough fishes are being conducted on a number of lakes, including Julianna-Mattie, Hollingsworth, Trafford, Hunter, and Tohopekaliga, all in the central Florida area. The data will be used in evaluating research and management efforts by determining trends in fish population structures. The data should also be useful in indicating future problem areas where specific fishery improvement measures might be called for.

In the Tallahassee area, an intensive study of three lakes, Talquin, Iamonia, and Jackson, is being conducted. The objective of this effort is to formulate a sound basis for protecting and managing the sport fishery of these popular and important bodies of water. Among the various matters being given attention in this study are the impact of such cultural developments as the construction of the new interstate highway which crosses near Lake Jackson's south shore.

An intensive investigation of the life history of the largemouth bass continued during this report period. An accumulation of information on the early life history of the species was completed and the findings published. A promising phase of the research concerns use of hormone injection to stimulate reproduction of largemouth bass in waters which have had little or no recent reproduction.

Another project which is continuing is a largemouth bass food and feeding habits study related to the drawdown of Lake Tohopekaliga in early 1971. It has been shown that the food and feeding habits of largemouth vary significantly during changes in lake level. Such changes are an important consideration in manipulating a lake level for management purposes.

In some Florida lakes the largemouth bass density is relatively high while the fishing success is comparatively low. Whether this trait is environmentally or genetically based, it is believed the problem could be at least partially alleviated through stocking fish selectively bred for greater catchability. Efforts to breed for desired characteristics have been successful in many other species, which gives credence to the belief that a more aggressive, heavier-bodied strain which would grow more rapidly than usual could be developed in the Florida largemouth. The bulk of this work, now in its early stages, is being conducted at Richloam Hatchery.

A stream investigations program, active during the year and continuing, involves monitoring the plant and animal life as well as the water quality of some key Florida streams. Currently under study in the program are the upper Apalachicola and upper Suwannee rivers and the St. Johns River. Regular sampling at key stations established on these streams will enable the Commission to detect changes in the environment. The knowledge accumulated from a continuing study of this type will put the State in a better position to take action to solve pollution problems and other matters having a detrimental effect on these streams.

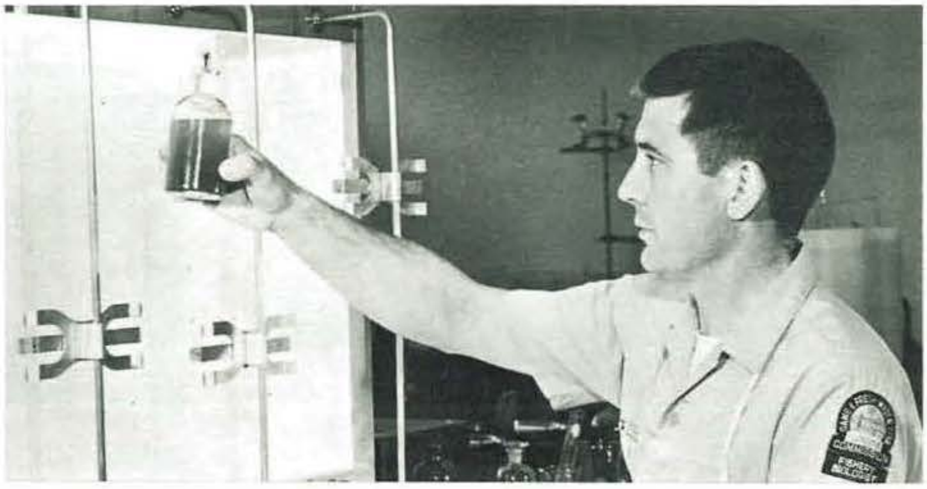
Lake Carlton, in central Florida, was the scene of a habitat alteration experiment during the year. A sand dredge was used to convert deep muck-bottom areas to shallower sand-bottomed types. Holes and trenches left by the dredge, as planned, collected much of the muck moved by the bottom currents. By the end of the report period, much of the dredge work was completed and evaluation had begun. It is probably too expensive for widespread use at the present time. In the future, the technique may have limited feasible application in lakes where little or no good bottom remains.

Fish attractors of two types have been placed in selected waters in an effort to determine the value of such devices as a management tool. The project is still under way, but the results of the quarterly sampling show promise. Sunken brush pile attractors thus far seem to have the edge over clusters of old tires.

An exotic fish investigation, designed to determine the distribution and effects of exotic (non-indigenous) fresh water fishes on the aquatic ecology of central and south Florida was active throughout the year. The first phase, a survey and inventory of exotic fish populations in the state, has been completed.

An exotic fish research facility at Boca Raton was under construction by the end of the report period. From this center, a continuing assessment will be conducted of the ecological damage, real or potential, to sport fish populations and their food organisms from introductions of exotic fishes.

Photo By Jim Floyd



Records of changing water quality through the years are obtained by water chemistry sampling on a routine or emergency basis.

Game Management

Wildlife research aims toward gaining new knowledge and enhancing all sport hunting opportunities. Tagged and radio-toting hens reveal secrets about turkey nesting and poult production throughout the state.

Photo By Larry Martin

THE DECADE of the '70's began with promises of an uphill struggle against the many stresses modern Florida imposes upon its wildlife resources.

Up to now, Game Management has been able to report substantial progress every year in the form of increased game and improved hunting success for the ever-increasing number of Florida hunters. Those bright days are gone. If any optimism is in order, it is in the hope that ways can be found to solve Florida's new wildlife problems without our having to give up hunting opportunities and seeing our remaining wildlife eventually relegated to a few preserves or zoos.

By the end of the present decade, Florida's human population will be the third largest in the nation. Minimizing the adverse impact of this population explosion on wildlife will continue to occupy Game Management as it has during the past year.

In 1970, the statewide turkey harvest declined substantially (Table 1), and for the first time since records have been kept, the population did not recover appreciably during the next two years. A survey indicated that virtually all land in Florida that can support wild turkeys in significant numbers has been fully stocked, thus indicating that restocking alone cannot put Florida back in the number one place in the nation for turkey hunting that we have enjoyed for several years.

It has been determined that Florida turkey populations are declining because of rapid elimination of suitable habitat by urbanization. Studies are now under way to secure the factual data needed to insure that hunting regulations will make the fullest possible sporting use of our still-substantial wild turkey population while insuring that overharvest does not join urbanization as a factor in the decline of the species. This problem is considered to well warrant the intensified study it received in 1971–72, and is now receiving.

Florida is blessed with the greatest variety and quantity of nongame wildlife in the United States, but this brings with it added responsibility and expense for protection and management.

Table 1. Statewide Harvests of Major Game Species

Species	1969-70	1970-71
Deer	41,900	48,624
Turkey	32,600	25,200
Wild hog	28,500	36,034
Quail	2,847,500	2,423,520
Squirrel	1,691,500	1,630,060
Dove	2,386,600	2,157,380

One of the state's better-known and best-loved birds is the brown pelican that greets every resident and tourist visiting the beaches. In the 1960's, brown pelicans became extinct in Louisiana, began to disappear in California, and were in critical danger in other regions. The blame was placed on environmental pollution by the insecticide DDT.

During early 1972, Game Management completed the first phase of its study of the brown pelican in the state and is happy to report that Florida's 20,000 brown pelicans are not dangerously contaminated with DDT, and that the population shows no sign of a downward trend.

There has been an increasing demand—and need—by the public for more knowledge about Florida wildlife, especially about the species generally not afforded the attention game species receive. Substantial progress has been made in research on nongame species, particularly sandhill cranes, brown pelicans, the alligator, and other threatened species of wildlife.

Brief mention should be made of a few other problem areas that received special attention during the past year.

A massive die-off of seabirds occurred on the Florida east coast during the winter of 1971–72, and remains unexplained even after an intensive study of the incident.

Botulism outbreaks of serious proportion occurred in several waterfowl areas, most notably on Lake Okeechobee, where one epidemic took a heavy toll on Florida Ducks and nongame water birds.

"Progress" in many forms takes its toll in wildlife, especially if not controlled. The Division has become increasingly active in the area of environmental impact studies. Noteworthy controversies have been our opposition to the U. S. Department of Agriculture's program to control fire ants with aerial application of the persistent pesticide Mirex, and opposition to continued construction of the Cross Florida Barge Canal.

The acreage included in the management area system grew larger during the year, increasing from 4,180,000 to 4,793,000 acres (Table 2).

The white-tailed deer is the most important game species on most wildlife management areas, and its populations continue to increase, with a few local exceptions. Deer harvest is also still on the increase, and is expected to continue to climb.

The present Florida deer herd is estimated to number some 400,000 animals.

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Exotic (non-native) animals continue to cause some anxiety in Florida because of their great potential for rampant reproduction and ecological and agricultural damage.

Florida has more species of acclimatized foreign wildlife than any other continental state. Special study has recently been given to the possible harmful effects of the cattle egret, which is suspected by some conservationists of representing a potential threat to the native herons, and feared by some sportsmen as a predator on wildlife, especially young quail.

Studies concluded in 1971 showed that the food habits of cattle egrets are not detrimental to wildlife (or especially beneficial to agriculture either), and no evidence was found to support the idea that the species is harmful to native herons, egrets, or bobwhite quail.

A major development in waterfowl management is the new bag limit system based on assigned points, whereby some species of ducks may be harvested in greater numbers than others to make better use of those that are most numerous and give better protection to the scarcer species.

Beginning in 1970–71 and continuing during this report period, Florida waterfowl hunters were permitted to take as many as 10 ducks per day of the commoner species if they were able to identify them before shooting.

Waterfowl populations showed no significant change during the year, and the closed season on Canada geese remained in effect (first closed in 1969–70). Geese have dwindled to about 10% of their former numbers in Florida. Experimental work is underway to introduce nonmigratory Canada geese into Florida in the hope that they will nest here.

Game management involves work with protected species such as the brown pelican with all funds provided by sportsmen.

Photo By Lovett Williams

Changes in the character of Florida wildlife habitat have been so great that some species have been pushed out of large acreages by such things as improved cattle pastures. It is possible, however, that other desirable species of game might be found that thrive in such places.

The spotted tinamou of Argentina is being studied as a prime game bird candidate for improved pastures, a habitat type in which no game bird now lives in Florida.

The natural pasturelike terrain of Argentina supports excellent populations of this "partridge," which has every quality of a fine game bird.

In 1970, 300 of these birds were trapped and shipped to Florida for continuing experimentation. Biologists believe the spotted tinamou has the best possibilities for Florida of any non-native game bird known.

Table 2. Florida's Wildlife Management Areas in 1972

	Acres
State-owned lands	
Blackwater	183,100
Brown's Farm	5,900
Bull Creek	20,800
Camp Blanding	70,000
Cecil M. Webb	62,500
Citrus	41,000
J. W. Corbett	56,000
Croom	21,700
Everglades	755,300
Hillsborough	10,000
Richloam	55,500
	1,281,800
Federally-owned lands	
Apalachee	6,000
Apalachicola	557,400
Avon Park	107,600
Eglin	464,700
Ocala	366,700
Osceola	157,200
St. Vincent Island	12,300
	1,671,900
Privately-owned lands	
Aerojet	40,300
Aucilla	165,000
Edward Ball	75,000
Robert Brent	95,000
Farmton	55,000
Lykes Bros. Fisheating Creek	97,400
Fort McCoy	28,000
Roy S. Gaskin	118,300
Guana River	12,200
Gulf Hammock	120,000
Hudson	12,000
La Floresta Perdida	30,100
Lake Butler	109,000
Lochloosa	44,000
Nassau	95,000
G. U. Parker	17,000
Point Washington	186,000
St. Regis	20,000
Steinhatchee	382,000
Tide Swamp	20,500
Tomoka	117,500
	1,839,300
Grand Total	4,793,000

Law Enforcement

FLORIDA WILDLIFE OFFICERS made 7,294 arrests during the 1971–72 reporting period. Of these, 190 cases were made for violations of the laws protecting deer, plus 153 arrests for the illegal possession of a gun and light at night for the purpose of taking deer.

There were 29 citations issued for possession of hen turkeys during the spring gobbler season and for possession of turkeys during the closed season.

Another 34 arrests were made for violations involving the unlawful taking of quail, and there were 37 cases for violations of the laws protecting squirrels.

Cited for violating migratory game bird and waterfowl laws were 478 persons.

There were 122 arrests for violations of laws concerning alligators, and 117 citations were issued for the illegal possession of a gun and light at night for the purpose of taking wildlife other than deer.

In addition, there were 1,095 arrests for violations in the general hunting category.

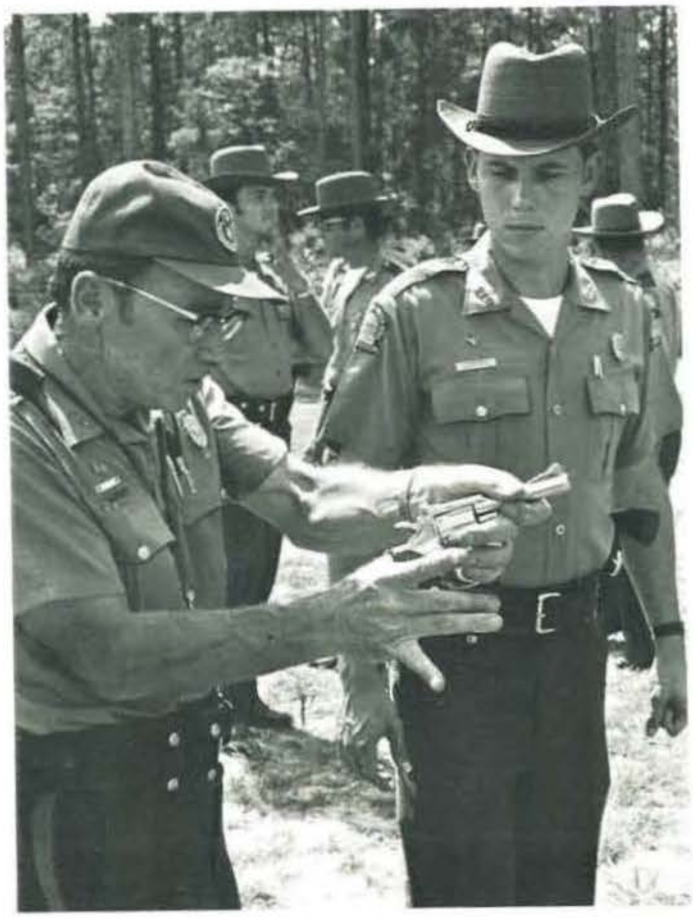
Persons cited for various fishing violations totalled 3,172, and 923 were arrested for violating the Florida Boat Registration and Safety Law.

Commission wildlife officers cited 602 lawbreakers for a miscellany of offenses observed or encountered during routine patrol. Among them were littering, narcotics, assault, and traffic violations—including 66 cases of DWI (driving while intoxicated).

A disturbingly high total of 60 cases were made for resisting arrest, assaulting an officer, and interfering with an officer in the performance of his duties.

Training is the key to upgrading enforcement. All wildlife officers must qualify initially with the service revolver.

Photo By William Greer



The normal work of enforcing conservation laws was interrupted several times during the year.

It became necessary to dispatch 32 officers to a State university campus in May 1972 to assist local and other State authorities in a coordinated effort to quell disturbances caused by anti-Vietnam War activists.

Hurricane Agnes caused another rescheduling of enforcement assignments during her flood-causing rampage through the state in June. Wildlife officers assisted citizens during emergency evacuation of low-lying areas, conducted search and rescue operations, and assisted other enforcement agencies with security patrols aimed at controlling looters, who appeared in the wake of the disaster.

Special teams were dispatched to areas on Lake Okeechobee, where local law enforcement authorities specifically requested Commission assistance in guarding against organized rings of looters.

Sixty wildlife officers and one Commission secretary were assigned by the Governor to work at the national political conventions of 1972, both held at Miami Beach. The wildlife officer force, commanded by the chief of law enforcement, received a one-week course of intensive training in riot control and mob psychology in Tallahassee during the month of June. The special training was specifically tailored to prepare the officers for situations they might expect to encounter in Miami in the event efforts were made to disrupt the schedule of events in connection with the two conventions.

The complexity of law enforcement functions continually increased at a staggering rate during the report period, and one of the approaches taken to meet the demands was in the form of expanded specialization. In an attempt to resolve two perpetual dilemmas for the law enforcement division, an Inspections and Investigations unit was initiated during the year.

The I & I team is primarily responsible for planning and conducting fulltime undercover operations on a statewide basis, as the need seems indicated. The function of this plainclothes force is to complement the work of the uniformed ranks in order to increase the Commission enforcement division's effectiveness in dealing with large-scale violations—illegal commercial hunting and fishing activities being conducted in the state.

Although uniformed wildlife officers are very effective in stemming localized hunting and fishing law violations by individuals, they are hampered by several obvious handicaps when confronting organized rings of persons who deal in game, fish, and fully protected species of wildlife—for profit.

First, uniformed officers are generally easily recognized within their respective enforcement areas and regions, so attempts to "work in close" in an investigation are difficult. Secondly, wildlife officers are responsible for a wide range of enforcement and other duties, so it is impossible to concentrate on one major case; day-to-day duties must be attended to. Finally, a commercial ring of violators usually encompasses many counties, which presents something of an impediment to the individual uniformed officer, whose patrol area is normally a specific county. It requires painstaking, persistent effort to successfully infiltrate and break an organized ring.

The investigation team members, working incognito, are able to work into the ranks of violators, gain their confidence, and slowly construct several strong cases that include evidence and information on all aspects of the operation.

Case violations as a result of an undercover investigation will usually include arrests of persons who buy, sell, store, and transport protected wildlife species as well as those charged with the unlawful taking of them.

In essence, a comprehensive undercover investigation is an attempt to "get the whole pie; not just a slice."

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The culmination of a cooperative undercover investigation by the Commission and the U.S. Forest Service in central Florida in February exemplifies the psychological deterrent that this type program offers.

Thirteen defendants were taken into custody to face 37 state and 10 federal charges as a result of an 8-month investigation of an illegal commercial deer hunting and selling operation.

With just over half the cases having been tried, the final dispositions reflected a total of approximately $4,050.00 in fines, with $2,400.00 of that sum earmarked for replacement of deer in the Ocala National Forest and in the Citrus Wildlife Management Area. A total of approximately 7 years in jail sentences had been levied in the cases tried during the report period, with most suspended provided the defendants replaced the deer they were convicted of having taken unlawfully.

The inspections team has the dual role of monitoring captive wildlife in the state and helping regulate the importation of foreign animals.

Enforcing reasonable standards for holding and exhibiting captive wildlife has been a perennial law enforcement problem. Since Florida's tourist attractions represent a major state industry, the problem is further magnified by the increasing numbers of such establishments.

The adoption by the Game and Fresh Water Fish Commission of uniform standards for the humane, safe, and sanitary housing of captive wildlife certainly represents landmark progress in this very difficult—and sometimes emotional—enforcement field. These standards, formally adopted in May, became effective July 1, 1972. They were the first of their kind in the nation, and quickly became the model for other states to follow.

In addition to ensuring public safety and attaining the goal of humane treatment for captive wildlife, the standards are also serving to enhance the appearance and general quality of all the wildlife exhibits in Florida.

The committee that drafted the standards included the assistant director of the Commission, who served as chairman, a member of the Inspections Unit, the president of the Florida Attractions Association, a number of zoologists and administrators representing large wildlife exhibits and municipal zoos around the state, and spokesmen for the Florida Department of Health.

As mentioned, inspection team members are also responsible for the regulation of licensed commerce in exotic birds, mammals, reptiles, and fishes in the state. (Tropical fish dealers alone represent a major industry in Florida, doing some $50 million worth of business annually, according to a recent estimate.) Among their specific duties are inspecting tropical fish farms, pet shops, and aquariums, reviewing applications for wildlife collecting permits, inspecting facilities and reviewing requests for wildlife possession permits, inspecting and testing in connection with requests for falconry permits, and attempting to monitor all introductions of non-native wildlife into the state, whether accidental or intentional, legal or illegal.

The problems associated with exotics are tremendous and still growing in Florida. Further expansion of the I & I unit will be sorely needed in the near future if any significant progress is to be made in "stemming the tide."

Other enforcement activities of record during the year include the instituting of confiscation proceedings in the circuit courts for items of property used in connection with violations of the various statutes concerning the protection of deer and alligators, as well as illegal commercial transportation of fresh water game fish.

This property included 49 motor vehicles, 91 firearms, 28 lights, six boats, a boat trailer, an outboard motor, and a hand radio.

A number of additional items of equipment were confiscated by county courts throughout the state.

Confiscation of personal property may seem to some a harsh penalty, but Law Enforcement feels that enactment of these statutes is having the desired effect, which is to deter some who otherwise would violate the laws protecting and helping to conserve the state's valuable wildlife resources.

Commission aircraft, as always, played a major role in law enforcement efforts during the year.

At present the Commission has three fixed-wing aircraft. They are used for aerial surveillance in all parts of the state. A Cessna 310 is based at Ocala, a Cessna 182 at Panama City, and a Cessna 150 at West Palm Beach. A helicopter is also based at West Palm Beach.

All of the Commission pilots are veterans of many years' service and are to be commended for their valid contributions to the effectiveness of good wildlife law enforcement around the clock in Florida.

Worthy of special recognition and commendation are the wildlife officers themselves, who are for the most part young family men, all trained for their work and with a great love for the outdoors. Each has one weekend off in six, on the average, and, in spite of all the hardships both the officer and his family endure, caused by extended absences from home, inclement weather, mosquitoes, and an element of personal danger, each man is totally dedicated to the task of protecting Florida's wildlife resources.

This year, the enforcement team, comprised of 183 wildlife officers, worked a total of 495,983 hours, an average of 2,740 hours each.

Two officers were wounded by gunfire in line of duty, in February and March 1972, respectively. One was assisting a sheriff's deputy, who, in attempting to make an arrest, lost his life. The other injured wildlife officer was struck down by three shots fired by a night hunter he was attempting to apprehend.

Both men recovered from their wounds and are back on duty, determined as ever to get the job done—to enforce Florida's wildlife code fairly, but firmly.

Alligator protection and answering gator-related complaints occupies much of a wildlife officer's day in south Florida.

Information and Education

THE JOB OF Information and Education is people—the determining factor in the success or failure of wildlife conservation. While other activities within a natural resource agency may be concerned with tangibles such as fish, wildlife or enforcement, Information and Education is involved with a most intangible substance, the human mind.

Wildlife administrators indicate their greatest problems are in the field of human relations and acknowledge that wildlife resource management is 90 per cent people management and 10 per cent resource management. If this statement is true, it is obvious that the success of hunting and fishing in Florida is directly related to the interests and concern of the sportsman-citizen and his activity in support of wildlife conservation programs.

Call it what you will, public relations or information and education, it is a phenomenon necessary to obtain sportsman-citizen support, and the key to the success of any conservation program. Conservation public relations is a two-way system of contact and understanding between agency and individual public. In essence, this system is the objective of Information and Education.

There are two distinct kinds of information and education ventures: Internal and external. The internal includes the day-to-day contact which is a result of the efforts of all employees of the Commission and is generally unorganized and uncoordinated.

To the average sportsman-citizen, the Commission is represented by the man in the field. This may be a wildlife officer, biologist, game or fish specialist, or an information officer.

It is the job of Information and Education to help establish better public understanding by providing the man in the field with information relative to conservation and Commission programs. Public confidence in the Commission, resulting from good impressions and sound information, is a prime prerequisite in the overall program, and does much toward assuring the success of conservation endeavors.

The second type of information and education venture is concerned with external public relations. This includes ideas and concepts as well as activities to improve the two-way system of contact and understanding between the Commission and the sportsmen-citizens of Florida.

It is difficult to comprehend Information and Education operations without some knowledge of the procedures and programs. The programs are divided into five separate activities as follows: General Information and Education, which includes Administration, Central Planning and Regional Extension; Audio-visual; Conservation-Education; Hunter and Firearms Safety Training; and the Commission Wildlife Reserve Program.

General Information and Education

To establish efficient two-way conservation communications, the Central Office is responsible for the administration and planning of statewide programs. Plans formulated by this office are applied uniformly at a grass roots level in each region through the work of the Regional Information-Education Officer.

While the Regional Information-Education Officer is responsible for implementation of programs at a regional level, the Central Office has the responsibility for statewide application of approved programs and operations.

The techniques and tools at the command of Information and Education include the following:

News and Information Releases: All news and information releases for statewide and out of state distribution originate at the Central Office. Releases concerned with local hunting, fishing and conservation subjects are handled at a regional level. Releases are mailed to all news media including daily and weekly newspapers, radio and television stations, sportsmen and conservation clubs, County Judges, and other public officials. Each employee also receives each release in order that he might keep abreast of events within the areas of conservation and the Commission. During 1971–72 a total of 127 news and information releases were distributed from the Central Office. A comparable number of local or regional releases originated from the combined efforts of the regional operations.

Brochures and Pamphlets: The majority of brochures and pamphlets are designed for the purpose of informing and educating the general public. They are written in a style that is easy to understand and at the same time provides basic wildlife information. Most are designed to fit into the standard business type envelope and provide a handy source of information in reply to numerous mail requests.

During the past year Information and Education designed and produced a new printed version of maps and regulations for wildlife management areas. The new hunt maps proved to be a great improvement over previous mimeographed regulations and provided recognition for landowners who make their lands available for public hunting. New designs were incorporated in the information brochure and registration forms for the Youth Conservation Education Camps. Other information brochures were updated, reprinted and distributed.

Newspaper and Magazine Feature Articles: It is sometimes difficult to tell a complete story in a regular news or information release, so it becomes necessary to utilize methods by which the full story can be told. These methods include magazine and newspaper feature articles. Features are prepared on local, regional and statewide levels and may be read in a magazine of national distribution or a statewide publication or may be included in the Sunday supplement of a newspaper.

Weekly Newspaper Columns: Information-Education prepares copy for a weekly column relative to wildlife and conservation. The column "Florida Wildlife" with comments on the outdoors is mailed to all newspapers and radio stations in Florida on a weekly basis and provides an area for expanded discussion of conservation subjects. The latest tabulation indicates the column is used by 11 daily papers with a total circulation of 89,550 and by 95 weekly papers with a total circulation in excess of 300,000.

Personal Appearances: Information-Education personnel make many personal appearances before groups of all types. A regular daily schedule of operations may include a school group in the morning, a civic club program at noon and a sportsman club presentation in the evening. In addition to presenting programs, the Information-Education Officer serves as booking agent for other personnel when a program relating to a specific subject is considered appropriate. Information-Education personnel appeared on more than 500 radio and television programs in order to utilize the broad coverage of the broadcasting media to carry the conservation message, and launched a new concept in radio programming during the hunting season. The program "Hunter Hotline" is carried each evening by a commercial station and provides information on weather, hunting rules, conditions and harvest. The program also provides a method by which a sportsman in the field can receive messages from the home front.

Plans were initiated for a new statewide radio conservation program in cooperation with the University of Florida in which the University will carry messages developed by Information and Education in their regularly scheduled pro-

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gram. These will be carried by 47 radio stations from Pensacola to Miami.

Exhibits: Information and Education designs, constructs and maintains permanent exhibits at various fairs and exhibitions throughout the state. Such exhibits provide an opportunity for maximum exposure to visual concepts of conservation and serve as a medium for exchange of communications between the man on duty and the visitor who may never meet a representative of the Commission in his regular way of life.

Correspondence: One tool of public relations that is often overlooked is the two-way communication of correspondence. Each year thousands of letters are received requesting conservation information. Each letter, regardless of contents or subject, is handled with individual attention. Many require an extensive reply while others may be answered with an informative brochure or pamphlet. If an individual takes the time to write a letter, Information and Education policy provides that the writer deserves individual attention in reply.

Audio-visual

During the past year the Commission's movie film library was moved to the media center of Florida State University which now handles all mailings and requests for Commission films. This program has served to free personnel of Audio-visual from the time consuming chore of checking and filling film requests. Emphasis has been switched from the use of existing movie films to the creation and use of color slide lectures that essentially serve the same purpose but are less expensive and provide an opportunity for expanded two-way communications. The overall concept of Audio-visual is that a good photograph is a capital investment that will pay dividends for many years to come, and the emphasis is on quantity with quality. Production of the slide series, "Marks of a Sportsman," which relates to sportsmanship and hunter attitude, is one highlight of this operation.

In summary, Information and Education is interested in maintaining good relations between the sportsmen and the Commission, and in developing good progressive two-way communication while creating a broad understanding of the need for wildlife and natural resource conservation.

Conservation-Education

FLORIDA'S YOUTH CONSERVATION CAMPS provide a setting for the introduction of young people to the wilderness, wildlife, woods, and waters.

These are camps which are unique; there are no ball fields, instead youngsters from eight to fourteen experience a vanishing way of life. They learn the silent art of paddling a canoe, learn fishing from an expert. They may learn the art of archery and the safe handling of a firearm.

There are presently two camps, each serving a completely distinct environment. The Central Camp, located at Lake Eaton in the Ocala National Forest, provides an area of pines and hardwood hammocks, fresh water lakes and streams. The Everglades Camp is located in the J. W. Corbett Wildlife Management Area near West Palm Beach. Here is a setting of sawgrass, savannah flats, cypress and palm hammocks, and everglades-related wildlife.

Programs at both camps are interrelated and divided into six areas of interest. This includes nature, riflery, achery, fishing, swimming and canoeing. In nature study a camper may choose a study of water, conservation and soils, or land study. No matter which area he might choose, an instructor specializing in that field imparts an enjoyable learning experience through lectures and physical contact with the major subject.

FLORIDA YOUTH CONSERVATION CAMP
FLORIDA YOUTH CONSERVATION CAMP

Photo By Jim Floyd

Time spent at youth conservation camps introduces Florida's young people to outdoor education—recreation and science.

During the past session 1,616 boys and girls attended the two camps. For the first time, an experimental co-educational session was initiated at both camps. The program proved to be both popular and successful and does encourage additional attendance at the camps as there are few camps which a brother and sister may attend simultaneously.

During the 9-week camp period, 603 youngsters were introduced to firearms and successfully passed the Florida's Hunter and Firearms Safety Course, and were so certified. Another 46 youngsters received Junior Life Saving Certificates.

This year the cost of the camp was increased from $35 to $45 to meet the increased cost of materials and personnel. This did not seem to have any adverse effect on camp attendance. Especially in comparison with the average of $75 per week charged by similar camps.

A new director was installed at the Central Camp and given additional duties as Conservation Coordinator. This man, a trained biologist with public school teaching experience, will coordinate the programs of both camps as well as carry the Commission's Conservation-Education message to schools, scouts, clubs, and individuals throughout the state.

As part of that program the Central Camp is preparing to carry out its program on a year-round basis, as has been the Everglades Camp for the past two years. Under this plan, the camps' facilities are available for other programs. During the week, schools and universities use the areas for ecological classrooms, workshops, and field trips. On weekends, church groups, clubs, sportsmen's organizations, and scouts may be found at the camps. During the past year, for example, the Everglades Camp was host to 30 various groups, giving the opportunity to get the message of Florida's conservation program to over 1,200 young people and adults.

Game and Fish Reserve

THE GAME AND FISH Commission Reserve Program is a relatively new operation that involves the Commission and uniformed citizens interested in wildlife conservation. The program gives conscientious and dedicated sportsmen an opportunity to be trained in wildlife conservation work and to use this training to benefit the conservation programs of Florida by working with personnel of the Commission in various activities.

The G.F.C. Reserve has become an important function of the total Information and Education operation and has extended the conservation arm of the Commission by freeing regular personnel for more demanding responsibilities.

Starting in 1969 as a pilot operation in Orange, Brevard and Seminole counties, under the supervision of the Regional Information and Education Officer, the program became stabilized and expanded in 1971 to include Citrus, Lake, Sumter, Osceola, St. Lucie, Marion and Volusia counties under the supervision of a fulltime program coordinator.

Reservists are identified by a uniform consisting of khaki shirts, olive trousers, trooper style hats, a distinctive shoulder patch and the badge of a G.F.C. Reservist.

Becoming a member of the G.F.C. Reserve includes considerably more than just joining. Applicants for the Reserve are recommended by Commission personnel in the area in which the applicant resides. The applicant must also pass a written and oral examination relating to wildlife, and be physically fit and able to perform required duties. The maximum strength of the G.F.C. Reserve is limited to three times the number of wildlife officers in each county.

The G.F.C. Reserve program has its own chain of command and its own supervisory personnel who coordinate activities of the reserve members through the Commission Reserve Coordinator.

Duties and assignments of the reservist are many and may range from accompanying a wildlife officer on regular patrol to working with fish and game management personnel, checking fishing creels or posting a public hunting area. They may be called on at any hour to capture a nuisance alligator, present a conservation lecture to a scout or school group or a program to a sportsmen's or civic club. They may assist with or present a hunter and firearms safety training program as most are certified instructors. The reservist may man an information booth at an exhibit, operate a check station on a wildlife area, maintain a radio communication station or appear in court as a witness when involved in an arrest with a wildlife officer.

Many reservists have attended the 280-hour Police Standard Course and all are required to attend at least the 80-hour Auxiliary Police Officers Course. The scope of authority for reservists completing the approved training is limited to violations of laws governing wildlife and fresh water fish.

Reservists are required to file a regular activity report and it is interesting to note that during an average period of 30 days 10 reservists reported a total of 564.5 hours carrying out conservation-related programs. These included 346 hours of law enforcement assistance, 95 hours of information-education activities, 7.5 hours answering complaints about alligators or other wildlife, 3 hours assisting wildlife management projects, 108 hours of in-service training and 5 hours spent in hunter and firearms safety training.

The G.F.C. Reserve Program is still new, but it is growing and holds great promise for the future of wildlife conservation in the State of Florida.

Hunter and Firearms Safety Training

WHY CAN'T JOHNNY SHOOT?

He doesn't know how and there isn't any place to do it!

The Florida Game and Fresh Water Fish Commission is deeply commmitted to changing both of the above answers, through its Hunter and Firearms Safety Program throughout the state.

Prior to May 1971, one Information and Education Officer was able to devote 5% of his working time to a program of firearms safety. The limited scope of the operation can be seen in the 1970 figures, listing 97 certified volunteer instructors who trained a mere 448 students. In May 1971, a federal aid grant from the Pittman-Robertson Act provided the needed financial boost that permitted the Game and Fresh Water Fish Commission to greatly expand its Hunter and Firearms Safety Program. A statewide coordinator was appointed, and a 5-year plan was implemented around four major objectives:

1. Development of a statewide Hunter and Firearms Safety Training Program, to reduce and eventually eliminate all hunting and firearm accidents.
2. Implementation of a program to recruit and train 3,000 certified instructors.
3. Training of 100,000 students in the program.
4. Construction of five firing ranges throughout the state.

During the first year, 1,000 volunteer instructors, many already involved in the National Rifle Association Hunter Safety Program, have been recruited.

Some 1,800 students have been properly trained and certified in firearms safety.

Under a cooperative agreement with the Columbia County Law Enforcement Association, one firing range has been completed, and a second range is in the final planning stages for Palm Beach County. Plans for the immediate future of the program include:

1. Distribution of training aids and manuals to currently active certified instructors.
2. Workshop sessions for both current and potential instructors, to prepare this cadre for training a new, expanded instructor corps.
3. A plan to provide weapons on a small scale, which would be assigned to Game and Fresh Water Fish Commission Regional Information Officers working with the volunteer instructors.

The preamble to the Firearms Safety Manual reads, in part, "This course will help sportsmen to safely enjoy Florida's wildlife bounty and to better understand, appreciate and practice the code of good sportsmanship."

So far, the program is making inroads into the "Doesn't Know How" answer regarding Johnny's shooting. The other half of the answer, pertaining to a lack of shooting areas, is covered in the plan to have at least five firing ranges that may be made available for Hunter and Firearms Safety Training.

During 1971, Game and Fresh Water Fish Commission records show there were 231 weapon accidents, of which 42 were the direct result of hunting. The aim of the Hunter and Firearms Safety Program is to, hopefully, reduce these figures to zero.

With the assistance and cooperation of the anticipated 3,000 certified volunteer instructors the program is aiming for, and the 5-year goal of 100,000 trained hunters and firearms users, this aim will become a fact.

Environmental Protection

This dragline can cause irreversible environmental changes. Machines have no minds; the men who plan to alter the landscape are responsible for damage.

DURING THE FISCAL YEAR 1971–72, the Environmental Protection Section increased in scope to include many facets of work important to preserving, protecting, and enhancing the state's fragile and endangered natural environment.

In complying with new and updated state and federal laws and policies, the Game and Fresh Water Fish Commission has taken an increasing part in helping formulate state policies regarding almost every type of natural resources planning.

Included in this report are examples of projects the Environmental Protection Section, with the valuable help of Commission regional fisheries and wildlife biologists, was involved with during the last fiscal year.

In compliance with the Fish and Wildlife Coordination Act of 1958, and with state policies enacted in 1971, the Section processed 1,090 dredge and fill applications. These included proposed construction in fresh water lakes and along the coastal zones of the state. Projects ranged in size from a few square feet to over a thousand acres.

Biological field inspections were performed on each of the proposals, and comments were prepared and submitted to the State Cabinet (sitting as the Trustees of the Internal Improvement Trust Fund) and to the U. S. Army Corps of Engineers, when appropriate.

In many instances the Section was requested to take part in the preliminary planning stages of large-scale projects. This procedure was adopted because it has been adequately demonstrated that environmentally important acres can best be preserved by educating the developers prior to commencement of the expensive procedures involved in engineering designs.

Chemical wastes, including detergents, kill aquatic life and destroy beauty of the state's waterways.

Photo By Lovett Williams

In addition to the dredge and fill applications, the Section processed over 500 projects received from the State Planning and Development Clearinghouse, which was set up in response to the 1971 National Environmental Policy Act for the central accumulation and distribution of state and federal projects. All public works, financed with federal funds, are received from this agency. The Game and Fresh Water Fish Commission has the responsibility of assessing and commenting on the probable ecological-biological ramifications of each project, and these comments are utilized in the formulation of state policies.

Clearinghouse projects come from and through the Department of Transportation, the Central and Southern Florida Flood Control District, the Army Corps of Engineers, the Soil Conservation Service, and from power generating plants, drainage districts, and many similar type agencies and jurisdictions. Biological field inspections and evaluations were conducted on each project proposed, and comments, with recommendations, were prepared and sent to the Clearinghouse.

Besides the legally obligatory functions of the Game and Fresh Water Fish Commission, members of the Environmental Section staff became involved in many other projects which had an impact on the Florida environment.

For example, our staff took an active part in the Governor's Conference on Water Resources in September 1971, in the establishing of boundaries for the State's Aquatic Preserves System, in committee work concerning governmental reorganization of natural resources agencies, in interagency field inspections of the Florida Keys, in the proposal to draw down Lake Apopka, in the establishing of water levels for the Oklawaha and Kissimmee chains of lakes, in continuing studies of Rodman Reservoir, and in many other projects when our participation was requested by a governmental agency or private organization involved with environmental regulations.

The many varied functions assigned to the Environmental Section all point toward one main goal: that of protecting and enhancing the unique natural values of Florida so that future Floridians will have a place in which to enjoy natural resource-oriented activities. Without ecologically-intact, productive fresh water marshes, forests, rivers, lakes, and estuaries, future management objectives relating to populations of fish and wildlife will be useless.

With increasing numbers of people desiring to live in the Florida environment, the job of protecting ecosystems has become extremely difficult. However, as the agency primarily responsible for resources, the Game and Fresh Water Fish Commission must find ways to meet the great challenges that lie ahead.

Photo By Jerry Ayres

Get a Duck—Not a Ducking

Houston Astros Manager Harry Walker suffered chilly goose bumps in Alabama's Little Cahaba River to help the American Red Cross prove a point—it's not necessary to drown while duck hunting.

Falling into deep water fully clothed need not end in tragedy. Walker said he had heard many stories about hunters falling into the water and being dragged to their deaths by their waders. But waders can actually keep a hunter afloat.

"Most people think clothes weigh you down in the water," said Charles Russell, Red Cross national director of Safety Programs. "But they don't. They trap air, and if you don't lose the air by thrashing around, you can float."

The first rule after falling overboard is to do nothing for a few seconds, Russell explained. "Just relax and let the air in your clothes bring you to the surface. Once you're floating, you can start to paddle your way back to the boat or safety."

If the boat capsizes, the impact will also throw out fuel cans, ice chests, empty jugs, and padded cushions. Any one of these things can help keep a hunter afloat. Even a plastic decoy slipped inside a hunter's jacket can help give extra buoyancy.

"In most cases, small boats don't sink when filled with water, but float at the surface," Russell explained. "The important thing to remember is that if you fall in the water clothed, you don't have to pull your outer garments off or drown. Your clothes not only can help you stay afloat by trapping air, but they also can protect you from overexposure in cold water."

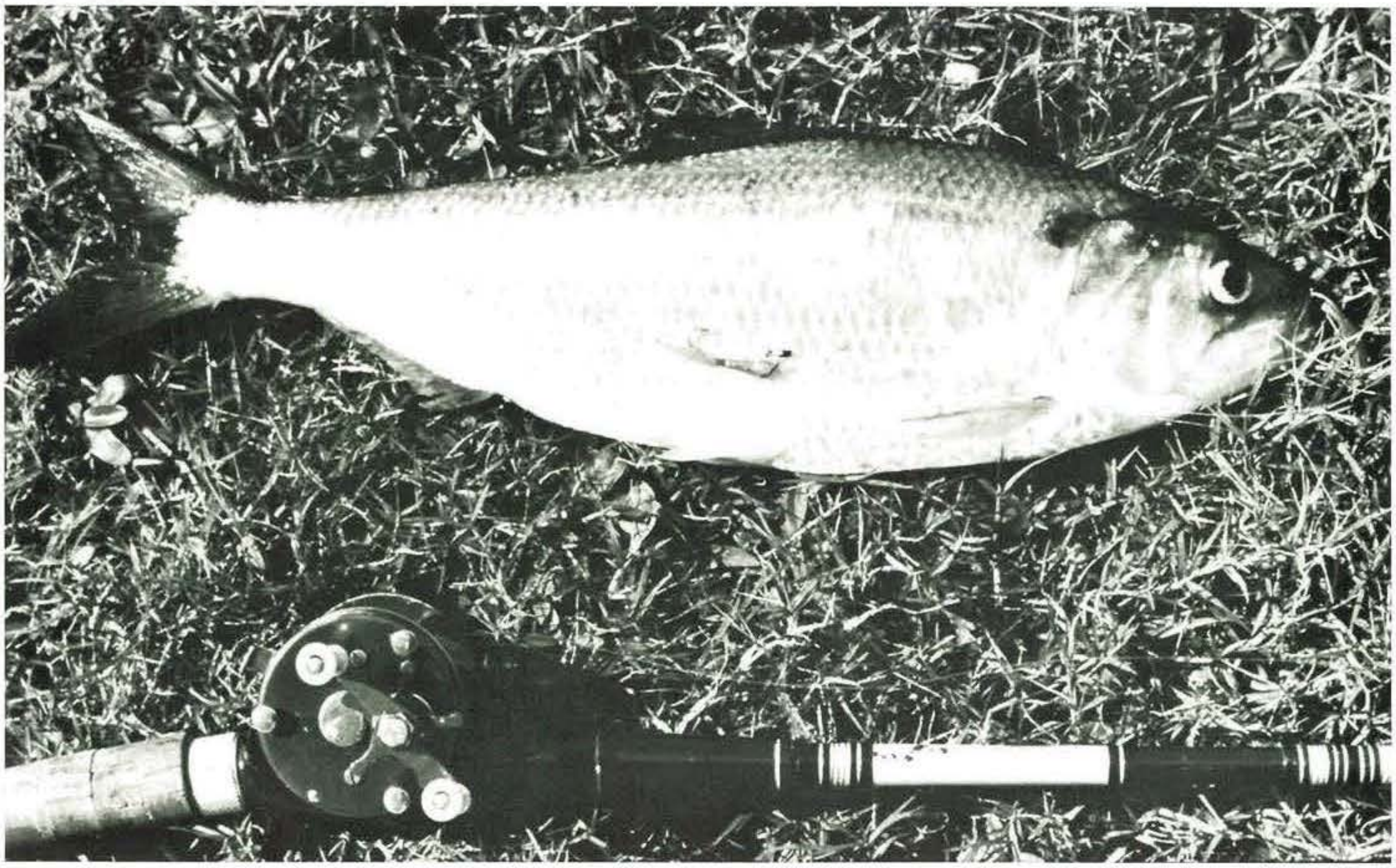
Russell cautioned against wearing an ammunition vest while hunting from a boat and against stuffing pockets with ammunition, since the extra weight could drag a hunter under water.

"If you try to swim back to the boat with the standard crawl stroke, your sleeves fill with water and the weight forces your head under," Russell said. "That's when you might panic and drown."

The prone float, or "deadman's float," will keep a hapless hunter alive while he swims slowly to safety without exhausting himself. This float, combined with breath control and the natural buoyancy of the hunter, can be a lifesaver.

"Simply take a breath," Russell explained. "Relax with your face in the water. Push down and back with your arms. Raise your face and take another breath, then again relax with your face in the water and repeat. This method will enable the hunter to stay afloat indefinitely."

Air in the clothing will eventually be displaced by the water, but some of the air can be replaced. One way is to lie face down in the water, partially unzip the jacket, and slap quantities of water and air into the jacket. The air bubbles will rise toward the water surface and become trapped in the back of the jacket. This will give new additional support. ●



not many sport fish can cause river traffic jams, but one is the sassy, silver-sided regular winter visitor known in Florida as the . . .

St. Johns Shad

THEY SAY A GIRL named Helen had a face that launched a thousand ships. I don't know what she looked like, but there's a down-in-the-mouth cold-fish type in the St. John's River that can lay claim to the same feat, and she does it every day of our Florida winters, year after year.

The first run of American shad comes early; so early that they thread their way under the keels of duck boats and around the patter of spent No. 5's as they hurry toward their spawning rendezvous at some sandy bar far up from the sea. By the end of January, hundreds of 2- to 5-pound fish are clogging every riffle from Sanford south to State Road 520, and a veritable navy of shad anglers prowls every sandspit and curve of this most curvaceous river.

The shad is far from the biggest or toughest of Florida gamefish, and he's got more bones than a turn-of-the-century corset. But with the possible exception of the spring king mackerel run, he stirs up more angling excitement than any other species. Why?

There are several reasons. The spawning region is close to major population centers, so lots of anglers can get at the fishing action in a hurry, and an Orlando newspaper sponsors an annual contest especially to encourage use of this fishing resource. Also, the run comes at a time when most gamefish angling is in a slowdown due to cool weather.

But perhaps most important, the shad is just plain accommodating. You don't have to be an expert with a $50 rod to catch him. You don't need a big boat and motor, or any boat and motor at all if you don't mind a hike to a productive bend. You don't need a tackle box full of lures. All you need is a few hours to spend on the river, a pair of shad darts, available for a little more than a dollar, and any rod and reel you care to try, down to the drugstore spincast models. All of which goes together to make the shad one of the few true gamefish in our state that can also be considered a family fish.

Ever try to take your youngsters or your wife bass fishing? Most kids and women have better sense than to sit in a boat from before dawn until after sundown to catch perhaps half a dozen fish for over a thousand casts. But shad fishing is a different game.

During the height of the season, from January to near the end of March, anyone who hits two or three good bends can be almost assured of action in a hurry. And mom and the kids have just as good a chance at that 5-pound trophy as you do.

A lot of shad are taken by casting from shore, but by far the most popular method is trolling. Everything from 24-foot cruisers on down to electric-powered 8-foot prams get into the act, and all hands catch fish when a fresh run moves in. Weekends often look like a regatta on the river, with boats lined up almost bow to stern over hot areas.

Nearly any small lure or fly will take a few shad if worked deep enough, but the standard shad rig consists of a very small lead-headed jig, usually yellow or white, with a second jig or a tiny silver or gold spoon tied in on a dropper loop about a foot and a half above it. A good swivel is necessary

(Continued on next page)

Most any light or medium tackle and 8- to 10-pound test monofilament will be dandy for taking American shad, upper left. The fish like to jump, left. Any jigs trolled or cast will take shad—and a few snails and mussels, above, if allowed to drag on the bottom. A landing net always comes in handy when hoisting this paper-mouth fish.

By FRANK SARGEANT

Photos By the Author

(Continued from preceding page)

above the top lure to avoid line twist during trolling.

This rig is trolled very slowly through riffles and over shoals, anywhere the current keeps the bottom free of muck and exposes clean white sand suitable for shad spawning. Sharp bends are always likely spots, since good sandbars often build up on the inside, and deeper holding water lies on the outside of the curve. Trollers run their boats through the deep water to avoid spooking the fish, while their lures swing in a loop over the shoal bedding areas.

As a rule, the best trolling speed is quite slow, so the jigs just tick bottom occasionally but don't dredge up grass or any of the millions of snails and mussels that litter the river bottom. Mussels, incidentally, seem to lie in wait for shad jigs, and snap shut like a rat trap when one slides into their shell. (It's tough to pry 'em open to retrieve your lure, but once you have, they make great catfish bait if you care to try for a mixed string.)

Some experienced shad fishermen like to troll until they find a concentration of fish, then get out on shore and work over the bed with a light spinning rod and a single jig, or with a fly rod employing a sinking line and weighted streamer. This is often more productive than continued trolling, since you waste lots of time dragging your lure through fishless areas just to get the boat turned around and headed back to the hotspot.

Also, bank fishermen don't have the heavy traffic to contend with, though you may have to exchange a few unpleasantries with trollers who may accidentally run over your line when you get a fish on. The problem, of course, is that the shore angler is working at a 90-degree angle to the troller, so some misunderstandings are bound to develop on days when the river is crowded.

The "shore patrol" runs into a few other problems occasionally, too. Like the winter day I decided to hike across one of the sprawling cattle ranges that surround much of the St. Johns to reach one of my favorite bends.

I was half a mile from the fence, threading my way around one of the dozens of cuts and channels above Puzzle Lake, when a pair of young range bulls started to take an interest in me. They snorted and bawled, and I stuck my hands in my pockets and nonchalantly whistled as I picked up the pace a bit. They started after me at a slow trot. I took off at a canter. They started to gallop. So did I.

Suddenly I was hemmed in by a deep channel. I didn't know whether bulls like to swim in January or not, but I hoped they didn't. The temperature was about 45, and a good 20-knot wind was bristling out of the north. I had worn a parka and two pairs of pants to ward off the chill, but none of it did much good when I stepped into that river. I wallowed out to where the icy water came up to my chest before turning to see if I had to start swimming.

The bulls came charging to the edge of the river, snorted, and then gamboled off without wetting a hoof, as though the whole thing had been a joke in the first place. It was a bit tough for me to see the humor—only tourists believe you can go swimming in mid-Florida all year.

Whatever the approach, shad fishing is one piscatorial pursuit where the light touch is not only more sporting, it's essential. You simply can't tighten down on a running shad and expect to winch him in on heavy line. At least 70 per cent of the

Casting at a riffle near Puzzle Lake, the bank fishing author, left, has a 2-pounder. Shad often surprise anglers by running at the boat, then jumping, right, just alongside. Peak shad fishing lasts from January to about the end of March here in Florida.

Photos By Frank Sargeant

time, the hook will pull out of the tissue-thin mouth, and the fish'll go on his way.

True, many experienced anglers like to use heavy line—to about 15-pound test—so they can pull their lure free if it should snag bottom. But they set their drag very light, nowhere near the breaking strength of the line, so that when a shad hits he can run with the lure without getting off. If you don't mind losing a few lures, line down to 4-pound test is fine for whipping even the largest shad.

Reels used for trolling should spool about 100 yards of line, whatever the test, because it is possible for a shad to make some amazingly long runs. Combined with the 20 to 25 yards normally let out for trolling, a good fish can clean a small spool. If you've never fished for long-running salt water species before, remember to resist the temptation to tighten the drag as he gets farther and farther out. The increasingly smaller diameter of the spool, along with the drag of the extended line, automatically increases pressure as the fish runs. Tightening the drag can only result in a pulled out hook or a broken line.

As leapers, shad are second to no fresh water fish, and compare well with trout, making high, lightning-fast jumps that are over almost before you have a chance to see them. And, like bream, shad know how to make use of their flat-sided body for maximum pulling power by keeping themselves at right angles to the direction of line pressure. Land a pair of good ones back to back and you'll know you've been in a fight.

Although shad in northern rivers along the Atlantic coast often attain 8 pounds, 5½ is about tops for our Florida fish. Undoubtedly there are a few larger, but most folks have about all they can handle with the scrappy 2- to 3-pounders that make up the average catch.

Shad return year after year to the same locations, and some of these spots have become famous for their massive production. Lemon Bluff is perhaps the best known mecca for shad chasers, though in recent years some experts have been avoiding it on weekends due to the legions of boats that pile up there.

Any of the stretches of river between Lake Monroe and Puzzle Lake, just off SR 46, are good. Farther south, several camps provide access to long reaches of the river just off SR 50, and great catches are made all the way to Lake Poinsett, just off SR 520.

Rental boats, with gas and motor, go for about $10 at any of the numerous camps along the way. If you can steal a few hours off from work, all of these locations will produce more fish during the week, when they are not stirred up by a lot of traffic.

Though I love to eat fish, shad and shad roe do not tickle my fancy, so I release my catches as a rule. The limit for sportfishermen was lowered recently from 15 to 10, which indicates that the runs are beginning to feel the combined pressure of sport and commercial fishing along with the powerful pollution in the lower reaches of the river. So any angler who does not intend to make complete use of his fish would be well advised to release them to spawn and help perpetuate this still-excellent fishery. Though shad die after spawning, the more young that hatch each spring, the greater the numbers likely to survive to adulthood in some 3 to 5 years.

Shad roe is considered a delicacy by many folks, however, and anglers who stick to the limit are not likely to hurt the species. Many people like to mix the roe with scrambled eggs as a breakfast treat. The fish itself is also considered top table fare, though it must be properly prepared to get rid of harmful bones. Shad can be planked and cooked slowly next to a bed of coals, or baked long and slow, with plenty of butter and lemon juice, to make the bones edible. Pickling in a powerful mixture of vinegar and spices for about a week will also soften the bones and make a tasty dish.

Whether you eat him or not, this easy-to-catch gamester is sure to be a big hit with you and your family. ●

Fish Management Notes

RODMAN RESERVOIR was lowered from 18 feet above mean sea level to a court-ordered 13 feet during the month of August, and Commission biologists under the direction of Dennis Holcomb monitored fish populations, water quality, and general conditions prevailing in the reservoir during the drawdown. Holcomb is project leader of the Water Quality Study, D-J Project F-21-7, with headquarters at the Fisheries Research Laboratory, Eustis.

Seven designated sampling stations were used during the month-long drawdown study.

Holcomb and his associates reported that various water chemistry, turbidity, and bio-chemical oxygen demand (BOD) checks before and during the lowering of the pool stage indicated "no critical or excessive water quality problems," but some wildly fluctuating dissolved oxygen levels were detected in the waters of the reservoir proper; fluctuations associated with heavily vegetated areas and occurring within 24-hour cycles usually.

"There is no question but that the D.O. in the reservoir proper is unstable," said Holcomb, "and probably was before the drawdown but went undetected because of the time of day previous reservoir samples were taken."

He said D.O. levels in the river remain adequate and stable from the confluence of Silver River (Silver Springs Run) north to the reservoir proper (with Moss Bluff lock and dam closed, preventing any water discharge from the eutrophic upper lake chain).

"Since the volume of water in the pool has been reduced, the retention time of water entering has been shortened, and thus far, there is no evidence that large amounts of rooted, submerged vegetation have detached and floated into the reservoir proper as a result of the dewatering. Barring such occurrences, we anticipate no drawdown-related water quality problems developing for the duration of the low pool stage—through December," the biologist said.

As to the matter of fish mortality during the drawdown, Holcomb reported, "Several of our staff were on the reservoir almost daily during the lowering of the pool stage in order to anticipate and document areas of fish entrapment and/or any substantial mortalities of catchable-sized sport fish. Aerial checks were also made, and some aerial photographs were obtained.

"Fish mortalities were observed in an isolated pool at Cypress Bayou and at another site to the south. No accurate count of dead fish was attempted, but included were several thousands of bluegill, warmouth, redear, stumpknocker, redbreast, assorted forage species, and a few bass and pickerel. None of the panfish observed in these areas were reported to be larger than 4 inches, and no game fish larger than 6-8 inches. Approximately 30 to 40 catfish and several bass were found scattered along the edge of the channel north of Cypress Bayou. The catfish were approximately 2- to 2½-pounders and the largest bass about a 2-pounder.

"The mortalities thus far have been confined to extremely shallow pools which were completely filled with submerged, rooted vegetation. The rank vegetation growth prevented the escape of smaller fishes as the water levels receded, and the combined respiration of entrapped fish and rank vegetation during periods of cloudy weather and darkness simply reduced the dissolved oxygen supply in the pools below the level necessary to sustain fish life.

"It is also possible that unobserved mortalities occurred in shallow areas where the forest was inundated, or in pockets far removed from the main pool. Our people surveyed with an airboat, but there were still many places they could not reach.

"In conclusion, Fisheries Division personnel did not see any 'massive fish kill,' and the number of catchable-sized game fish encountered was insignificant. Thus far, the drawdown has had no detrimental effect on the game fish population of Rodman Reservoir," said Holcomb.

Fish Management Specialist George Kelly of Ft. McCoy, who spent considerable time on the reservoir during the drawdown, advised that he saw more fishermen on the reservoir and the river during the lowering than prior to it. He said fishermen had no trouble launching their boats at the two ramps at Eureka, from the graded roadbed that extends into the lake at Orange Springs, from the old ferry site at Cedar Landing, or from the embankment at Rodman Dam. Kelly also advised that he heard little adverse comment from the public regarding fish mortalities.

Commission biologists point out that Rodman Reservoir would have been drawn down eventually anyway (without a court order) if it was to have received proper management for improved sport fishing and for aquatic weed control. The practice of periodically dewatering and "drying out" lakes and reservoirs, where possible, is the only effective fish management tool available to fishery scientists that will reduce harmful vegetation but encourage desirable plant species, stabilize and aerate large areas of lake bottom, and, thereby, improve fish spawning habitat and sport fishing. ●

The October and November issues of FLORIDA WILDLIFE have been late for several reasons, mainly due to complete changeover in production and printing methods under a new contract. Despite delays, the contents have remained current—issues are not dated in advance like most magazines.

Shooting Glasses

special glasses can reduce glare and make any target easier to see—the best reason for wearing them is to protect the shooter's eyes

By EDMUND McLAURIN

BACK IN THE EARLY 1930's, competitive rifle and pistol shooters very successfully used shooting glasses fitted with large, yellow-hued lenses made by W. F. King Optical Company. Both frames and lenses were shaped to give users a broad field of view. King supplied lenses ground to prescription or plain, as needed by the shooter. The shooting glasses carried the trade name "King Rifleite."

The yellow lenses sharpened up targets considerably. Since the standard NRA targets used in competitive events had black bullseyes, and the shooting glasses created a yellow, "lit-up world" effect, there was maximum contrast.

Bausch & Lomb produced the now well-known "Ray-Ban" shooting glasses, featuring various shades of green lenses that reduced glare and excluded ultraviolet and infrared radiations. The firm also developed "Kalichrome," a yellow optical glass that was supposed to do everything claimed by the rival King "Rifleite" lenses. The "Kalichrome" yellow lenses can still be had, as well as neutral gray, a relatively new lens color in shooting glasses.

In rivalry, Calabar early produced shooting glasses similar to the Bausch & Lomb in green lens color, with frames that had the temples (earpieces) in high position for unobstructed side vision. Calabar shooting glasses became quite popular, especially among shooters needing prescription lenses.

The King "Rifleite" glasses ceased to be available with the passing of the head of the firm, but the type has been continued among presently available brands of shooting glasses.

Bushnell Optical Corporation makes beautiful and very practical shooting glasses.

Personally, I would like to have a pair of Bushnell No. 80-2000 shooting glasses ground to my needed prescription, with either green or gray lenses for general shooting, but in yellow if I were still taking competitive target shooting seriously. (For paper target work, one cannot beat the contrast of black aiming bullseye against a yellow background, although for general shooting I have no complaints against my present Bausch & Lomb "Ray-Ban" green prescription glasses.)

Even though you do not wear eyeglasses regularly, you should wear them for shooting—for safety's sake. Take it from me! Years ago, I learned that lesson firsthand.

I had purchased a "bargain" lot of war surplus .30-06 ammunition at a "giveaway" price. There were approximately 600 rounds in all, of varying age and condition, from perfect cartridges to ones badly corroded or with cases possessing split necks. Their common characteristic was age; no cartridge was younger than 12 years.

The individual cartridges were examined under a magnifying glass, and all those with obvious defects were discarded. In the end, I had approximately 450 rounds that passed that first inspection. Subsequently, I made it a point to again carefully examine each cartridge just before loading.

Cartridge case brass tends to get brittle with age, especially in tapered, necked-down cartridges. Such loadings are under considerable metal stress throughout their unfired life. Also, as it ages, unused, loose .30-06 ammunition is generally subject to case corrosion and hairline case neck cracks, as well as case nicks and dents.

I knew these characteristics, but believed I had discarded all substandard rounds.

All but five of the old .30-06 military cartridges had been faultlessly fired when it happened. With the firing of one of those, there was a sudden flare of blinding light in my face, accompanied by burned powder blowback and a shower of tiny particles of brass!

My face and forehead were pocked with bits of burned powder, primer particles and brass, and the lenses of my shooting glasses received several nicks, but none of the blowback reached my eyes—*thanks to the shooting glasses I was wearing!*

Since then, I have been a crusader for the wearing of glasses while shooting—even if the firearm is a .22. There is always a chance of failure of an aging or improperly annealed cartridge case, primer puncture by a too sharp or heavily driven firing pin, excessive headspace in gun action lock-up, or other firing factor that can set the stage for an unnerving surprise and possible personal injury.

Incidentally, the rifle was a Springfield Model 1903 National Match grade bolt-action with a nickel-steel bolt and receiver, and correctly tight of headspace. The firearm was not at fault, nor did it receive damage.

Examination of the fired case on extraction

(*Continued on next page*)

(*Continued from preceding page*)

showed a rupture about ⅜-of-an-inch on each side and all the way across the head! You could easily put the point of a table knife in the base crack.

I still have that cartridge case—as a memento of my experience.

If you have reached the age at which you need the help of prescription glasses to shoot well, or if you need changes in your present glasses, I suggest you look up and review "The Eyes Have It," an illustrated feature article I wrote for the August 1958 issue of FLORIDA WILDLIFE. That's quite a while back, I know, but copies probably are in public library files of popular magazines. Florida public libraries, particularly, usually save Florida publications for reference.

"The Eyes Have It" text contains detailed explanation of common eyesight defects, with particular emphasis on getting the best possible corrected vision for shooting. Its publication was hailed by both authorities and shooters as the most comprehensive text on shooter vision problems to be published in a sporting magazine.

One of the finest ophthalmologists in America, himself a shooter, collaborated with me in the article's preparation. Reading it will surely help you if you are a shooter with a vision problem.

When having prescription glasses fitted, there are several points to remember . . . .

Reading glasses usually focus at 18 inches or less, and everyday eyeglasses incorporating lenses for distant seeing invariably focus at a considerable distance from the eyes; hence, ordinary glasses are seldom of much value for serious shooting.

Your eye doctor can fit you with a special pair of glasses that will give you the best possible vision for shooting. These special glasses will be worth every cent of their cost if you take your shooting seriously and need the assistance of prescription lenses.

You definitely want correction for as little as ¼-diopter of astigmatism.

Also ask for corrected curve lenses—so you can see to the edges as well as through optical center, for clear vision at times when your head is tilted at an angle.

Naturally, the optical center of the lens on the aiming eye side should correspond to the area through which the shooter looks as he takes aim.

Whenever possible, arrange to take *unloaded*, open-actioned shotgun or rifle with you, so that your optometrist can take firsthand analysis of your technical needs. By noting how you shoulder a rifle or shotgun for firing, he can locate the optical center of your aiming eye lens for maximum benefit.

When your shooting glasses are ground to prescription and delivered to you by the supplying optician, have your optometrist adjust them to your face. He can adjust the frames at any of five locations: nose pads, temples, end pieces, hinges, or browbar.

Optical grade plastic is now being used for eyeglass lenses. There is a small gain in light transmission, and the plastic lenses usually have less reflection than those of glass, besides being lighter and stronger than even casehardened glass.

How the optical plastic resists scratching under hard hunting or shooting range service, I don't know, but most of the plastic lenses I have seen worn by hunters have had fine line scratches.

An optometrist friend tells me that small and shallow scratches on plastic lenses can be removed by putting a little toothpaste on soft tissue or lens cleaning paper, and polishing lightly. Do not use silicone-treated papers or cloths; they can scratch plastics.

The two most annoying problems associated with the wearing of shooting glasses are maintaining them in proper adjustment to face and ears, and keeping them clean.

The browbar, or sweatbar, that most shooting glass makers incorporate into frames, largely eliminates the annoyance of a drop of perspiration suddenly appearing on one or both lenses.

Long ago, I found a way to keep my shooting glasses clean and unfogged.

First, wash them with Joy detergent, then rinse and dry thoroughly. Next, rub lens surfaces with a bar of hard, grit-free Fels-Naptha soap. Finally, polish with a clean, dry cloth furnished by your optician.

When hunting from a boat, use a neck cord on your shooting glasses as insurance against loss overboard. You won't be conscious of the cord, yet it will be there to save your glasses from being knocked off and lost overboard by an inadvertent bump or momentary loss of balance. These cords are quite inexpensive, and in a pinch, a hunter could improvise one.

Use of a small aperture in an adjustable camera will sharpen up photographs by increasing the *depth of field,* thus making both near and far objects within that field appear sharp in your pictures. The same principle can be used with shooting glasses, whether they contain prescription lenses or plano (non-prescription) lenses.

For improved handgun shooting, and use of metallic rifle sight combinations for target shooting, sharpen the sight picture of your aiming eye by pasting a ⅜-inch diameter black dot of photo album paper, with pinhole center, on the sighting lens of your shooting glasses at the exact spot you look through when taking normal aim. The black dot can be almost instantly made with a large-hole paper punch of the type used by banks and many business offices.

You may have to experiment a bit with different peep hole sizes to determine the best size for your eyesight. A pistol shooter not too steady of hand, or a rifleman who needs to shoot rapidly as well as accurately, usually will need a larger aperture than a marksman firing unhurriedly from a steady rest.

Do not completely cover the lens with black paper that has only a tiny peep hole. This defeats the working principle of the improvised optical aid.

However, be careful to see that the peep hole in the small, pasted-on black dot is located exactly at the spot on your lens through which you normally look when taking aim. It *must* be in exact alignment with aiming eye—if it is to have practical value.

For safety—and improved shooting—wear shooting glasses, whether or not you need the added assistance of corrective lenses.

EVERY YEAR AROUND Christmastime friends ask me to suggest some suitable gift for an active sportsman. This year, I feel it is appropriate to suggest items that I own and use with pleasure. I recommend any and all of the following with confidence:

For a sportswear gift of surprising versatility, give a 10-X Bush Coat, stylishly tailored and featuring twin shoulder patches, large bellows-type pockets, and soft, but very durable, cotton poplin fabric. The garment is perfect for Florida sportswear—especially for mild weather hunting and shooting range wear. There is a new blue color choice, but I am loyal to the sand tan shade.

A useful and appreciated gift for the dove or deer hunter is either a Kamo hunting vest with back compartment or a Kamo parka with attached hood that folds inside when not in use.

For a truly fine gift, consider a pair of Bushnell Custom Compact model binoculars of 6 x 25 or 7 x 26 designation. The recipient will find them marvelously convenient to carry and a joy to use on the Florida scene and elsewhere.

A hunter of any age, but especially so if he is past 40, appreciates the assistance of a good scope sight on his hunting rifle. He can see better, aim better, and score more hits.

Very practical for the squirrel hunter or the big game hunter in Florida is a 2¾X or 4X Bushnell scope sight with conventional crosswires reticule and optional magnetic pop-up "Command Post" for use when crosswires may prove hard to see, as in the light of early morning and late afternoon.

Scope-holding rings are needed to utilize a telescopic sight, along with a base that fits the particular model used. Your local gun store can advise and supply, or order, exactly what is needed.

Any gun-owning family member or friend will like an Outers Laboratories gun cleaning kit, made in various rifle and pistol calibers and shotgun gauges.

If the shooting member of the family is a shotgunner, consider giving him one of the portable Outers-brand clay pigeon throwers. A new type of base makes the Outers trap easy to anchor firmly. All you do is step on the base's corners at its ground rod points.

If there is a dog man on your list, give him a copy of THE PRACTICAL HUNTER'S DOG BOOK by John R. Falk.

A man who owns a good gun should have a good case for it. The Kolpin Bros. Model No. 390, of beautifully tooled oak leaf patterned cowhide, makes a fine gift. (Be sure to specify the correct case length.) So does a Kolpin No. 771 shoulder bag, made for shotgunners and short-trip hikers. It makes a useful carryall.

Very useful to a sportsman is a Dremel multiple-use electric handtool, utilizing a variety of dental-type cutters, grinders and polishers.

Also a good gift is a heavy duty electric soldering gun—a Weller, Sears Roebuck, or Montgomery Ward unit. The recipient will find plenty of uses for it.

Matched sets of gunsmith-type screwdrivers make good gifts for a home gunsmith.

If the outdoorsman in your life lacks a compass—or needs a better one—get him a Silva "Huntsman" pocket compass for Christmas. For my money, the "Huntsman" is the best and lightest practical compass a sportsman can carry.

Of the many types of knives made, the most practical general-use knife for an outdoorsman is a large double-blade, folding type carried in a pouch on the belt. Such a knife is the Case No 6265-SAB. Ask for that name and number. It's a man's knife, and it will do all the jobs of an outdoorsman.

A dependable flashlight is always a welcomed gift. You cannot buy a better one than the Ray-O-Vac "Sportsman." I consider the 2-cell size handiest and most economical to use.

Fresh water on a hunting or fishing trip, or a hike, is a sure refresher. Palco all-aluminum canteens, with cloth covers that can be wet for keeping contents cool by evaporation, make perfect carriers. They also make perfect Christmas gifts.

Handy for car use is the Thermos Dual-Jug, a two-section, 1-gallon capacity durable plastic jug, with GI gas can-style carrying handle. The two sections permit carrying drinking water in one compartment and any other desired beverage in the other. Wide-mouth openings (that have drinking cup-type screw-on covers) permit the use of large pieces of ice. ●

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Photo By Lovett Williams

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